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Lord Lister

WE have celebrated, this year, the centenary of one of the greatest men who ever graced the medical profession—the man who entirely revolutionized the practice of surgery and made possible many of the conspicuous advances in the science of medicine of which we of the twentieth century are so justly proud.

Joseph Lister was born April 5, 1827, in the village of Upton, England, which is about ten miles from London and is now a suburb of the world's Metropolis.

His father was a Quaker merchant who, though he received little formal education, had an active mind, as evidenced by the fact that he was made a Fellow of the Royal Society, in recognition of his contributions to the science of optics, which were worked out, as a hobby, in his spare time. It was he who made possible the development of the achromatic lens and the microscope. There is an interesting parallel here with the recent surprising work of J. E. Barnard, the London hatter, who invented the ultramicroscope which made it possible for Gye to photograph objects theretofore invisible.

Young Lister was sent to a private school at Hitchin and later to Grove House, Tottenham. He was quick at his studies and one of his masters has reported that his high spirits sometimes led him into

minor infractions of the rules. He showed very early in life a fondness for the study of anatomy and surgery.

In 1844, at the age of 17, he entered University College, London, from which he received the degree of Bachelor of Arts. He then took up his medical studies; was made house surgeon of the University College Hospital in 1851; and, the next year, became a Bachelor of Medicine and Fellow of the Royal College of Surgeons. As frequently happens with British surgeons, he was not "Doctor Lister," but "Mr. Lister," until he was knighted, in 1883, becoming Sir Joseph Lister.

At this time—about 1852—James Syme was one of the most noted surgeons in the world, and, a year after his graduation, Lister secured a position as his house surgeon, which he held for more than a year. In 1856 he married Agnes Syme, the daughter of his teacher and friend.

Lister practiced surgery for some years in Edinburgh, and displayed great skill, exactitude and ingenuity in his profession, inventing a number of instruments and procedures and making improvements upon others. In 1860 he was appointed professor of surgery in the University of Glasgow.

It must be remembered that in those days, the surgical wards of hospitals were chambers of horror. All wounds sup-

purated; surgical or "hospital" gangrene—a terrible, stinking, phagedenic infection—was common; and the death rate following operations and severe injuries was appalling. Surgeons had a habit of wearing a black frock coat in the operating room, and when one of these coats became so caked with dried blood that it would almost stand alone, its owner was reckoned as an experienced operator. They carried their sutures in the buttonhole; moistened the ends in their mouths to make them thread into the needle more easily; and gave their scalpels a final edge on the sides of their boots.

The introduction of general anesthesia, a few years prior to this time, had greatly increased the number of operations performed. A bold man can imagine the conditions which followed.

The announcements of Semmelweis and Holmes regarding the contagiousness of puerperal infection had passed almost unnoticed, but Lister had no doubt heard of them, and when a friend and associate called his attention to the interesting fermentation experiments being reported by the French researcher, Pasteur, he decided to see whether these discoveries could be applied in surgical practice.

On this basis, Lister replaced the oakum and soiled rags, which had formerly been used as surgical dressings, with clean gauze; he washed his hands before operating, and also his instruments, in a solution of carbolic acid; he washed the site of operation with the same solution and devised a clever apparatus for throwing a fine carbolic spray around the operator and the field of his labors while he was at work.

But in spite of the remarkable results he obtained, his method was something *new* and, as usually happens to pioneers in medical science, the entrenched and conservative "authorities" of his day ridiculed the idea, so that when, in 1870, upon the death of his beloved teacher, Syme, he was called to the chair of clinical surgery in the University of Edinburgh, he was received with anything but honor.

Convinced of the soundness of his position, he continued his work and his studies, in spite of opposition, jealousy and discouragement. In 1872, he first conceived the idea of "baking" his dressings before use—an idea which has resulted in the modern autoclave.

When he visited America, in 1876, the prominent surgeons of this country received

him cordially and listened to him with interest. But when, the next year, he was appointed clinical professor of surgery at King's College, London, the indifference, apathy and personal animosity of his countrymen had not abated, in spite of the fact that putrid wounds had been eliminated from his wards, while those of his colleagues reeked with pus and rottenness.

This condition could not, however, last forever in the face of his obvious results. Honors came to him from learned societies in foreign countries, and at last his work was recognized in his native land when knighthood was conferred upon him, in 1883.

In 1886, Sir Joseph was recognized as the foremost surgeon in England and his counsel was eagerly sought in obscure and difficult cases. In 1892, a great ceremony was held in Paris, on the occasion of Pasteur's 70th birthday, and upon that occasion two of the world's greatest benefactors met for the first time.

Lister's married life was exceptionally happy and successful. His wife followed his researches with keen and intelligent interest (remember, she was the daughter of James Syme) and frequently acted as his secretary. After her death, in 1892, following a year after his retirement from active teaching, on account of age, the great surgeon was never the same; and when, in 1897, he was elevated to the peerage, becoming the First Baron Lister (the first physician to receive such recognition) it was an empty honor because his Agnes was not there to share it.

Lord Lister never treated "cases." Every suffering patient who came to him was a *human being*, worthy, not merely of his highest professional skill, but also of his kindly and sympathetic personal interest. His patients loved as well as respected him.

Some years, before his death, at a dinner given by the Royal Society in Lister's honor, the American Ambassador said: "My Lord, it is not a profession, it is not a nation, it is humanity itself which, with uncovered head, salutes you!" And when, in 1912, this great and beneficent life ended, Sir Michael Foster, in recalling the fact that Lister had been reared in a Society whose members called him "Friend," remarked, "And now, in truth, because of his inestimable beneficence and service to mankind, *all men*, the world over, call him Friend."

PROTECTING THE VICTIMS

When one studies the statistics of killings and maimings by automobiles one finds them appalling; but when one drives out along the roads, particularly in the vicinity of cities and over the week-end, one marvels, with so many fool drivers at large, that the casualties are not even more numerous.

When the stories of automobile accidents are watched for a while, it appears that about 90 percent of the serious accidents are caused by a class of drivers which forms less than 10 percent of the motoring public and includes: adolescents and physical adults with the minds of children; truck drivers for the smaller commercial and industrial firms (the big firms generally employ competent drivers); speed maniacs; and those who attempt to combine alcoholic overindulgence with motoring.

It is rare to hear of an accident of any gravity brought about through the fault of a mentally mature man or woman, particularly when the owner is driving his own car.

The class of drivers responsible for most of the accidents comprises the very kind of people who have the least sense of personal or civic responsibility. And so, if one of these hoodlums hits you and wrecks your car or cripples your wife, it is highly probable that his financial responsibility is nonexistent and that he carries no public liability or property damage insurance—if he had any social or financial standing or enough sense to carry insurance he would drive more sanely!

When some of these drivers who are a public menace achieve their own demise by their pernicious activities we cannot feel so sorry as we probably ought. But hundreds of people suffer serious financial loss every year because they have no legal redress against these conscienceless or mindless offenders.

No legal enactment can furnish a man with a set of brains, but Massachusetts, for one state, has found a way to protect the victims of the irresponsibles. Any person who wishes a license to drive a motor vehicle in that commonwealth must file a bond for his financial responsibility or bring proof that he is carrying personal liability and property damage insurance before such license will be issued to him.

Such a law works no hardship on any reasonable citizen, because those people are carrying insurance anyway, and some statute of the sort should be enacted in every state in the Union.

There are some states so lacking in a sense of their duties to the public as to permit any one who will (even an insane man) to send a ton of steel crashing along a public highway, jeopardizing the lives of hundreds.

Every state should have a law providing for the licensing of drivers only after they have passed a physical and mental examination to determine their competence, and a practical test to demonstrate their technical ability to handle a motor car.

Physicians are—or ought to be—leaders and molders of opinion in their communities. If we all start talking and agitating about these matters it is surprising how much we would be able to accomplish. And if we do succeed in bringing some of these things to pass, think of the thousands of valuable lives that may be saved and of the physical and financial suffering, among innocent persons, that may be avoided!

It's worth trying, anyway.

It is easier to dodge an elephant than a microbe.—
The Crusader.

THE FRANCO-GERMAN CHEMICAL TRUST

Powerful chemical interests in France and Germany have recently come to an agreement to cooperate in endeavoring to command the world's chemical business. This follows an arrangement between Great Britain and Germany, and it is expected that Italy and Switzerland will also join. This bids fair to be the largest and most powerful industrial organization ever known.

While this trust will strive to control the production and distribution of dyes, industrial chemicals, rayon and other substances which are becoming more important every day, it will also include drugs, and that is where it touches the physician most closely and personally, though every one of us, as a citizen, should be vitally interested in the whole proceeding.

We never had—we were not permitted to have!—a chemical industry, before the War. Now we have developed one which is producing more than twice as much as

can be consumed at home. We need the markets of the world as an outlet for our surplus.

Anyone who thinks that the European chemical interests are content to see our drug and chemical business grow, or that they are not extremely busy in exerting strong pressure to undermine that business, is wholly ignorant of past history along this line and dangerously simple-minded and trustful. Read over again the editorial on the Chemical Foundation, in *CLINICAL MEDICINE* for December, 1926.

If we do not keep our eyes wide open and watch what is going on in Congress and other places—if we go to sleep on the job, as we are so prone to do—somebody is going to “swipe” the bread and jam, right from under our noses. And then we’ll howl, *plenty!*

An ounce of attention to business is worth a ton of regrets and bellyaching.

Verbum Sap.

Tackle the hard jobs first; the easy ones have a tendency to settle themselves.—Samuel Rea.

WHEN IS A MAN DRUNK?

It is easy enough, when a man is whooping and staggering and his breath reeks like a distillery, to say that he is drunk. Under such conditions any layman—even a child—can make the diagnosis.

In these days, when about twenty percent of the adult persons in the community own automobiles or are in process of paying for them, when thousands of men and women are employed in the control of powerful machines in factories and elsewhere, and when “hip liquor” of more than dubious quality is being imbibed rather freely by irresponsibles who, may, at the same time, be trying to steer a car through heavy traffic, it becomes highly important that physicians should be able to make a diagnosis of intoxication without waiting until the subject is comatose or in delirium tremens.

The fines and reprimands handed out by the courts for reckless driving are too paltry and inadequate to deter any real speed maniac or foolhardy joy rider; but for driving when intoxicated the penalty is much more severe, and if a drunken man is handling a massive machine, *someone* is to blame. It is, therefore, necessary that physicians work out some method for determining whether a man is carrying enough alcohol inside to interfere in any

degree with his physical and mental powers, so that they will be able to maintain their position unshaken on the witness stand.

There are also, of course, other conditions in which large matters may turn upon the fact of whether or not a person was intoxicated at any particular time.

At the Los Angeles General Hospital they have worked out a system whereby the usual clinical signs of acute alcoholism, studied and recorded in a routine manner, are supplemented by one or two quantitative laboratory tests, so that the doctor who examines a suspected inebriate can have something *solid* to back up his personal opinion. This system is fully described by Dr. Emil Bogen in *California and Western Medicine* for June, 1927, and we have abstracted the article on page 955 of this issue.

We hope every one of our readers will take this matter to heart, look into it carefully, make serious, scientific efforts to diagnose the milder cases of alcoholism and then *stand by their findings* through thick and thin.

There are many abuses in the abatement of which the public has a right to expect and receive the earnest cooperation of the Medical Profession. This is one of them. In the unhurried and expansive days of a century or two ago it was solely a man's own business if he wanted to get drunk, so long as he didn't beat his wife or shoot up the town. But a hand and brain unsteadied by alcohol may, today, when they are manipulating powerful machinery of various kinds, endanger the lives of many other people, and we, as physicians, must firmly and relentlessly strive to the end that, whenever an avoidable accident occurs because of intoxication, *someone* is severely punished.

The man who is really sure that he is right, cares very little about adverse criticism.—William E. Towne.

ANTIPYRINE

Antipyrine, the chemical name of which is phenyldimethylpyrazolon, is a slightly bitter, white powder, freely soluble in water and less so in other solvents.

Physiologic action.—Full therapeutic doses of antipyrine cause a buzzing in the ears, like quinine. The body temperature, if normal, may be lowered a fraction of a

degree. Larger doses give rise to blueness of the lips and finger nails and to chilly sensations, followed by profuse sweating, which is more severe if fever has been present. There may be nausea and vomiting.

Fatal doses, given to animals, may cause either tonic and clonic convulsions or complete paralysis, according to the size of the dose. Consciousness is not lost. Death results from failure of the respiratory center.

Medicinal doses lessen reflex action and act as *nerve sedatives*, especially on the *sensory nerves*. Injected hypodermically or applied to mucous membranes, antipyrine is a *local anesthetic*; the anesthesia lasts for several days.

In ordinary doses it may be slightly depressant to the heart, but not to any serious extent. In some persons it lowers blood pressure, so it should be used carefully in people with weak hearts. Large doses increase the *respiratory rate*.

It *decreases tissue waste* and is rapidly eliminated, chiefly by the kidneys and salivary glands.

If *fever* is present, it reduces temperature by decreasing the production and increasing the dissipation of heat, acting through the nervous centers.

Antipyrine is moderately *antiseptic*.

The most common untoward results from moderate doses are coldness and cyanosis of the hands, feet and face, and various skin eruptions. These soon pass off, in most cases.

The *antidotes* for overdoses are stimulants in general, atropine and measures to maintain the body heat.

Therapeutic uses. Antipyrine is chiefly used to *reduce fever and relieve pain*. For the former purpose, *hydrotherapy* is more efficient and safer. It should be used only in the *sthenic fevers*, where *sudden hyperpyrexia* must be combatted promptly. It is dangerous in *phthisis* and of little or no value is *sunstroke*. It has no effect on the course of any febrile disease, except possibly *gout* and rheumatism, but merely reduces the fever.

Its chief use as an *analgesic* is in *neuralgias*, especially in rheumatic and gouty conditions and those due to *nervous depression or exhaustion*.

In *whooping cough* it is an excellent remedy to decrease the frequency of the paroxysms. The dose for a child of 5 years

is 2 grains (0.12 Gm.) every 4 or 5 hours, to be stopped if cyanosis appears. It has also been found useful in decreasing the severity of *epileptic seizures*. It seems to subdue the acute pain of *posterior sclerosis*.

In *acute coryza*, a 4-percent solution may be sprayed in the nose, following the application of cocaine. When used for local anesthesia it produces severe pain for a few minutes, unless its use is preceded by that of cocaine or procaine. Being also hemostatic, it may be used in a suppository for painful and bleeding *hemorrhoids*, if a little cocaine is first applied.

The use of antipyrine increases susceptibility to catching cold, and it should not be given to persons who have to be out of doors in cold weather.

It is *incompatible* with the salts of iron, calomel, corrosive sublimate, phenol, sodium salicylate, chloral, beta naphthol, tannic acid and tincture of iodine. With *sweet spirit of niter* it produces a blue color, changing to dark green. If this does not happen the niter has lost its strength.

Administration.—Antipyrine may be given in tablets in doses of from 3 to 5 grains (0.2 to 0.3 Gm.), and up to 20 grains (1.3 Gm.) if it is well tolerated. It may also be given in solution, in an aromatic vehicle to cover the taste.

The voice of the laboratory—which is science speaking—must be confirmed by the verdict from the clinic—which is experience deciding.

THE PEACE OF CHRISTMAS

What has become of the Christmas of our forefathers—the season of “Peace on earth; good will to men”?

There isn't much *peace* about it now; and no superabundance of good will. For too many city people, the season means merely a wild scramble through the department stores and gift shops in a search for articles which will be sufficiently *expensive*, whether they are appropriate or not; fevered calculations to see whether there is a sufficient number of gifts and greeting cards to take care of the people to whom they *ought* to be sent; consultations with the bootlegger to secure a supply of liquor which is deemed adequate to the occasion; and perhaps, as an afterthought, the hurried trimming of a Christmas-tree, which is often the occasion for a good deal of ethylic (or methylic, according to the status of the bootlegger) hilarity.

We give, not out of the fullness of our hearts, as of old, but out of the abundance of our purses—and sometimes well beyond that point. Instead of looking forward to the season with joyous anticipation, we go through it with a furrow of anxiety between our eyebrows and heave a sigh of relief when it is over.

Instead of a time of radiant but quiet joy over the fact that a Great Teacher came to the world 2,000 years ago, and an effort to manifest our appreciation of that happy circumstance by acting upon His sweet and kindly teachings for one day in the year, at least, we have made it a period of competitive ostentation and a feverish search after some form of hilarious "pleasure" for ourselves.

This, we hope and believe, is not so generally true in the smaller villages and rural districts, where the people are closer to Nature—our great mother—and are not so distressingly sophisticated as to behave more like "robots" than like human beings.

Let us try to win back to a tired and overstrained humanity the peace and tranquil joy which used to crown the celebration of the winter solstice—the time when the sun turns back toward us again and the new year begins to be reborn; the time when the watching shepherds saw a great Star in the East.

It ought not to be so impossible. If each of us will reawaken that spirit in *one* heart—his own—much will be accomplished. If, in addition, each will strive to awaken it in one other heart, by doing some kindness to one who *does not expect and cannot repay it*, the thing will be done.

We can make His birthday a time of rejoicing and refreshment, if we will, and then the world will be sure to have A MERRY CHRISTMAS.

Any scheme of education or discipline that does not recognize the principle of ego satisfaction and take care of it is doomed to failure. There is a sustaining consciousness in the knowledge that we have done something to call forth the praise, approval or envy of our fellowmen and education must take this into its reckoning.—Dr Frank H. Richardson.

DIATHERMY AND PEACHES BROWNING'S LEGS

A few weeks ago a Sunday issue of the *Chicago Herald and Examiner* occupied a full page with a lurid description of how Peaches Browning had had her massive legs "melted down" to shapely proportions by a "distinguished plastic surgeon", whose

name and residence were frankly given. The article was charmingly illustrated with photographs of the "distinguished surgeon" in action and of Peaches' nether extremities, before and after the operation, as well as with several more or less imaginative drawings.

Certain groups of the population will be deeply interested in the remodeling of Peaches' legs, for their own sweet sake. For us the article contains two or three points of decided interest.

No such story as this, especially the photograph showing the "distinguished surgeon" at work, could have been given to the press without the active cooperation of the physician concerned. This is the kind of thing which gives the advertising "specialists" a chance to point their fingers and say, "That is the way the *ethical* doctors evade that part of the code of ethics which discountenances advertising." Of course, they do not go on to say that this "distinguished plastic surgeon" has not been accepted as a member of the Chicago Medical Society, the State Medical Society, the American Medical Association or, so far as we can learn, of any other reputable medical organization. Neither is the public taken into that secret, so they have reason to think that the publication of such stuff is agreeable to physicians in general.

Diathermy is now recognized by the profession as a valuable method of treatment, in many cases. There is no more mystery or magic about it than there is about a dose of castor oil or quinine. It is, however, a comparatively new procedure (to the public, at least), and its use, as well as that of other physical methods of treatment, will not be promoted, among thoughtful people, by finding it exploited in this manner.

A third point, of minor importance but not to be wholly overlooked, is the use of the name of a physician of the highest standing in such an article. He had nothing to do with the article and may not even have been seen by a reporter, but he is quoted as an authority on diathermy (which he is), and the thoughtless reader, who is vastly in the majority, would tend to place him in the same class with the "distinguished plastic surgeon" who, no doubt, furnished that description of himself.

The code of ethics may be out of date, and it may be necessary, in these days of keen competition, for physicians to advertise their skill and equipment in the public

prints. If a majority of the profession thinks that way, the code can be changed. Many feel that an honest, paid advertisement is less objectionable than this type of fulsome exploitation.

Of course, the "distinguished, etc." cannot be thrown out of anything on account of his conduct, because he isn't in anything, but it will be to our advantage to watch for things like these and deal with the careless ones rather firmly—at least, until we have revised the code of ethics, if it needs it.

Pseudo-intellectuality is a greater menace to human progress than untutored ignorance, for the field of influence of the latter is limited, while that of the former spreads like infection throughout wide areas.—Matthias Nicol, Jr.

PHYSICAL CULTURE AND MEDICINE

When we write physical culture, like that, in plain, ordinary letters, it means something quite different than when we write it *Physical Culture*—with Italics and capitals. In the former instance it means the development and perfecting of the physical body, and every thoughtful physician is recommending it to his patients and friends every day; in the latter case it is the name of a popular magazine for laymen which, not content with extolling the joys of having a lusty and robust physique (with abundant pictures of highly developed persons of both sexes—especially Mr. Bernar Macfadden)—has seen fit to add to its activities rather regular attacks upon the medical profession, and particularly upon organized medicine.

Now, neither the profession of medicine nor the American Medical Association is sacrosanct. Both are made up of human beings, who are prone to err. There is, however, in all probability, no group of persons in the United States who are actuated by higher motives or are more sincerely and humbly seeking the truth than are these same doctors.

When we published an editorial on this subject, in October, we fully expected to hear from it—not so much from the patient and long-suffering medical men as from the followers of MacF., who have erected physical culture to the stature of a religious cult. We have not been disappointed. The defenders of the downtrodden priest of physical power and pulchritude have fallen upon us and smitten us hip and thigh. Calling us poor, deluded fools is the gentlest thing they do.

We are particularly grieved at being castigated by the ladies who find bulging biceps and muscle-knotted abdomens and shoulders far more intriguing than musty, tiresome tables of scientific statistics and reports of laborious researches in laboratories and hospitals.

But these tables and graphs are not without their romantic side, if viewed in the proper light. The story of the long and still-continuing battle against tuberculosis, malaria, yellow fever, diphtheria and other dread diseases, and of the major and minor engagements which Medicine has won in the course of these arduous campaigns, will fire the imagination and enthusiasm of anyone whose mind is not hermetically sealed against new or unpleasant ideas.

There is a joyous old epigram to the effect that, "The people who are down on a thing are generally the ones who are not up on it"; and, so far as we can find out, there has been no change in the physical laws which determine what kind of a barrel gives out the most resounding note when struck. The wholesale attackers of the medical profession are simply uninformed or misinformed, and we should turn toward them in sympathy and helpfulness rather than in anger and reprobation.

We sincerely hope that our correspondents are right in stating that we can do Mr. Macfadden no harm, personally. We should be sincerely sorry to do anything of that kind, to him or to any other human being. There is no doubt that he is an interesting person and he is, very probably, a lovable character. Finding fault with some of his methods implies no personal animus against him, as a man; nor do we intend to imply that his ideas are all wrong or that he has done no good in the world. Either of these positions would be untenable and untrue.

We do wish, however, to warn physicians and, through them, the less informed members of their communities, against some of the powerful propaganda which is being put forth by the great and wealthy organization which Mr. Macfadden has built up.

All the physical or drugless methods of healing advocated by the *Physical Culture* cult have been known and used by the Medical Profession for hundreds of years. Are bran and raw food and exercise any more "natural" or "God-given" than digi-

talis or gland extracts or vaccines or the surgeon's skillful hands?

Let us give every man full credit for all his valuable contributions to the sum of human knowledge and happiness; at the same time recognizing his mistakes. Let us devote ourselves to the dissemination of the truth, from whatever source; abstain from all personal recriminations; and refuse to allow ourselves to be angered, disturbed or befuddled by the lucubrations of any of our prehistoric progenitors—or their modern descendants.

It is with the narrow-souled people as with narrow-necked bottles; the less they have in them, the more noise they make pouring it out.—Pope.

HELP OTHERS

Of all seasons in the year, Christmas is the time when we should be eagerly searching for ways to help those who are unable to help themselves. Many opportunities of this kind lie close about us, and we should utilize them to the full, if we would be happy.

If we could see the sorrow in the hearts of those who suffer from tuberculosis, and

especially, of those whose livelihood has been cut off by the illness of the bread-winners, we would need no urging to ameliorate their condition. As it is, we must take the words of those who do see these things.

The familiar Christmas seals are one of the ways by which we can help the helpless, with no hope of return *in kind*. We may not be able to buy many, but everyone can buy a few and "do his bit."

From time immemorial, children have been told the legend of St. Nicholas, the patron saint of all good children, who brings them gifts at the Christmas season.

The highly sophisticated youngsters of this period are coming to look upon this fat, jolly old personage as a myth; but remember that myths are often truer than history, for they frequently symbolize the most basic facts in human experience.

Surely, some benign spirit descends upon us at Christmas time and prompts us to the performance of acts of kindness and good will. Let us all be, to as great an extent as we are able, the ministers of the genial "Santa Claus" and work his kindly will upon those who need help most.



Leading Articles

Dyscrinism and Toxemia

By J. MONTGOMERY ANDERSON, M.D., London, England

BETWEEN monoglandular dysfunction on the one hand and the more extensive polyglandular conditions on the other, varying degrees of perverted activity exist. Considering the relationship between the various ductless glands, it is probable that the pure monoglandular condition is rare and that it exists simply because the symptomatology referable to one gland is so predominant that it masks the symptoms due to dysfunction of the most closely related gland.

Again, the consideration of such conditions is limited, as a rule, to the study of the physiologic functions of the glands themselves, without thought of any possible underlying causes, and it seems to me that the underlying causes, whatever they may be, are as important as the actual glandular condition itself. In every other condition we try, so far as possible, to deal with causes at the same time as we deal with the results of these causes; yet in endocrine dysfunction we apply the appropriate glandular therapy without consideration of the cause of such dysfunction. The results in such cases are, for the most part, good—in some cases really brilliant—yet how often have we been disappointed with our results, even where the indications for treatment seem to be absolutely clear cut and straightforward.

Two causes for such failures strike me: One is that underlying conditions are not dealt with and the other—probably an even bigger problem—is that, in spite of the enormous research already carried out, endocrinology is still in its infancy and, because of this, the best products of the manufacturers still fall short of giving complete satisfaction. We get the best possible results with the preparations at our disposal, but there is no doubt that with increasing knowledge the various laboratories will improve their preparations and will be able to give us the active principles of the various glands, and then we may look for positive results, where now we

have to be content with mere improvements or have even to confess failure.

Even now, such active principles have been isolated and are being used with brilliant success in treatment. The most recent example is the discovery of insulin which has revolutionized the treatment of diabetes; and one need only refer to the isolation of the active principles of both the parathyroid and the ovaries, both of which are said to be physiologically active.

Intestinal Toxemia

With regard to the underlying causes of endocrine dysfunction, one has to search deeply; and while such toxic foci may be present in the teeth, tonsils, accessory sinuses, etc., there is no doubt that, in many cases, the toxic focus is in the intestinal tract. Normally the "septic tank" of the body should have no ill effect on the body health, but let the wall of this "tank" come to be in a catarrhal state and therefore more permeable to the toxins produced there, then there must be a lowering of general resistance, a swamping of the delicate glands with toxins with which they cannot deal efficiently, and a general lowering of health. As illustrating the effects of such a toxin overflow, we may note the effect of a saline purgative on many of the habitually constipated. The intestinal contents, being in a more liquid state after the saline, are naturally much more easily absorbed, with the result that for several hours after taking the medicine, the unfortunate patient complains of a train of symptoms much more annoying than those of the actual constipation. Fortunately, these symptoms pass over fairly quickly and the general state is soon much better than it was before the medicine was taken.

While such general malaise is very suggestive of massive toxin absorption, the long continued absorption of smaller amounts over a long period is more difficult to trace to its ultimate effects. Yet there is much that we may presume.

Our knowledge of the thyroid is greater than that of any other gland and within recent years its active principle—thyroxin—has been isolated by Kendall. Thyroxin has been shown to be a derivative of the amino acid, tryptophane, and this in its turn is an end product of digestion. If then we can show that part of the tryptophane has been destroyed in the intestinal tract by the action of putrefactive organisms, we may reasonably deduce a deficiency of thyroxin.

In the test tube it is simple to show the presence of large amounts of indican and skatoxyl in the urine of patients who show clinical signs of hypothyroidism, and when we consider that these two putrefactive bodies are derivatives of tryptophane we seem to have established a relationship between deficient thyroid activity and toxemia of intestinal origin. Whether such a conclusion is fully justified is difficult to state but the fact remains that, where the putrefactive derivatives are present in the urine, endocrine symptoms are almost invariably present to a greater or lesser degree.

From the clinical examination of the patient, associated with the chemical examination of the urine, one has come to the conclusion that a relationship exists between the destruction of the tryptophane in the intestinal tract and a train of symptoms of endocrine origin. It is difficult to decide which of the two conditions, the toxemic or the endocrine, is the first to appear. It seems to me that the latter is definitely secondary, though of course it is a recognized fact that the offspring of parents with endocrine disturbance do exhibit a tendency to a similar condition. On the other hand, it is uncommon to find endocrine disturbance in infancy and it is only as the child grows up and is left to its own devices that the characteristic signs appear.

During the period of gestation the obviously hypothyroid mother improves enormously in health, probably because her thyroid gland is stimulated to an activity sufficient for the well-being of two individuals, and therefore the oxidation processes in the body are at their optimum. How often does this mother descend into her chronic ill-health—never absolutely well and never very ill—soon after the birth of the child.

When the child is born it has had a good endocrine start in life, for nature sees to

it that the earliest days are good; but, because of the natural, or rather unnatural, tendency to intestinal disorders, the child, probably unsuitably fed after the period allowed for natural feeding, soon becomes a victim of constipation, with a resulting absorption of toxins and, as a sequence, an upset of the endocrines naturally occurs.

How very few children we see who were, at birth, endocrine cases; and, as a rule, for the first year or two they remain in good condition, because of the care taken that the natural functions of the body are regularly attended to. Later, when the child is left to its own devices, nature is attended to less and less regularly, until there is a condition of more or less obstinate constipation. This, in its turn, means toxic absorption and this is undoubtedly the first and earliest stage in endocrine dysfunction.

Toxins Affect the Thyroid

The thyroid is the gland easiest to study and in this gland we may watch the various stages of its dysfunction. In the earliest stages of toxic absorption there is, no doubt, an increased production of internal secretion to deal with the new conditions. At this time the gland begins to show signs of enlargement and in the course of a few years we have the condition of toxic goitre. Were the toxic condition thoroughly dealt with at this stage, there is no doubt that the gland would recover its usual size and activity, but, ere sufficient attention has been paid to the condition, puberty arrives with its extra strain on the endocrine system as a whole. In the female, there is an attempt to establish the menstrual function and, because of the relationship which is present between the thyroid and the ovaries, this throws a specially severe strain on the already overtaxed thyroid and there is a further enlargement of this gland. The most fortunate result is an establishment of the flow, though this may be irregular in every respect, but in the less fortunate the periods are much delayed in their appearance, they are irregular as to both time and amount, and frequently dysmenorrhea and severe headache are characteristic of each period. All such symptoms are very definitely endocrine in their origin, but this in its turn is undoubtedly dependent on the underlying toxemia, and in treatment one has to attend to the toxic state even more than to the endocrine if the best results are to be obtained.

It is not possible to gage the extent of the endocrine disturbance from the amounts of putrefactive derivatives in the urine, and more than that, it is scarcely possible to say whether the indican or the skatoxyl is the more important guide. This, however, may be stated; that the indican refers to a toxemia which has its origin in the terminal coil of the ileum, while the skatoxyl is evidence of the colonic origin of the toxic state. It is almost impossible to conceive, however, that such a condition can exist in the ileum without the colon condition, though, so far as the evidence from the urine is concerned, the latter may seem scarcely to be present.

It always seems to me that all intestinal toxemias are primarily of colonic origin and that the terminal coil of the ileum is infected through a patent ileocecal valve. In those cases where the former predominates, while the colon condition appears to be non-existent, the reason seems to be that, because of the growth of bands round the ileum, the normal impulse is inhibited and there comes to be a delay in the passage of waste materials through the terminal coil, and there the tryptophane is destroyed, with the production of indican. Several conditions of this type have come under observation and one of these seems to be worthy of detailed note.

A lady, who showed all the symptoms of polyglandular deficiency, had very definite symptoms of intestinal origin. Originally the urine had showed both skatoxyl and indican, the former being in the larger amounts. Treatment extending over a long period gradually cleared up the colon condition (i.e., skatoxyl disappeared from the urine), but the indican persisted in small amounts. During this period there was a very definite improvement in the endocrine symptoms but the patient was by no means well. The urine, examined at intervals during a year, was of very low specific gravity and it contained fairly large amounts of indican.

Symptoms of a subacute attack of appendicitis necessitated operation. Before the operation it was suggested to the surgeon that we would find a healthy colon but that the terminal coil of the ileum would be bound down by adhesions; and such were the conditions found. The adhesions were broken down and during a very long period following the operation, the urine was examined at regular intervals and on no occasion was any trace of indican present. Since the operation there has been a steady improvement in the endocrine dysfunction and for the past eight months no special treatment has been necessary.

There is little doubt that this band of adhesions round the terminal coil of the

ileum was responsible for the toxemia which, in its turn, led to the endocrine dysfunction, the symptoms of which were such a prominent feature.

Endocrine Epilepsy

Endocrine epilepsy is a definitely established condition, but here again the cause of the endocrine disturbance is without a doubt toxic, and very frequently the intestinal tract is at fault. Gland feeding of these cases does give results, but, unless the toxic side of the condition is also dealt with, the results may be very disappointing. More than that, the earlier such cases are seen and dealt with the better are the chances of success. Two cases of this type may be quoted, one in a child and the other in an adult. These two form a contrast in the results obtained in the early and late treatment of endocrine epilepsy:

(a) A girl, aged 5 years had had epileptic attacks over a period of three years—there was no family history of epilepsy—and these attacks were increasing in frequency and severity. This child was the last of a large family and was born when both parents, both obviously subendocrine types, were about age 45.

The child was of normal growth; mental development under average for her age; was extremely restless; showed all the signs of hypothyroidism and hypoadrenia. Constipation was a most marked feature, in spite of special attention, and an attack always developed when the constipation was especially bad. The urine at this stage gave enormous amounts of skatoxyl which was suggestive of a toxemia from the colon.

Special care was given to the intestinal tract and a polyglandular mixture was prescribed. Within a very few days a definite improvement was noted in the general condition. At the end of a month, the more marked signs of hypothyroidism had begun to disappear; the hair, which had been dry and harsh, became silky and glossy; the skin, also dry and desquamating, became soft and pliable; the epileptic attacks had already become less frequent and less severe. Up till the present—a period of nearly three years—there has only been one attack and that at a time when the stomach had been overloaded with unsuitable food. Mentally the child had improved beyond recognition. The urine, which, as already noted, contained enormous amounts of skatoxyl, cleared up and a recent specimen examined showed no skatoxyl and was normal in every respect.

(b) A man, aged 36 years, had his first epileptic attack some ten years ago. There was a second attack two months later. This was followed by enteric fever (second attack) and for over a year there was no return of the epilepsy. Recently the epileptic attacks had become more frequent and had increased in severity. The usual sedatives—bromides, luminal, etc.—seem to

have lost their effect. Mentality is very slow. The tongue is thickly furred and the breath foul smelling. Constipation is a marked feature.

The urine showed skatoxyl in very large amounts; indican in smaller quantities; acetone bodies were particularly abundant. Signs of hypothyroidism were specially well marked, as were those of hypoadrenia and hypopituitarism.

Treatment dealt with the acidosis, with the intestinal and with the endocrine conditions. In the first week of treatment there were three attacks of grand mal; in the second week, none; in the third week one. During the past two years, this patient has reported from time to time that the attacks are much less frequent, that the intervals between them are increasing, and that the attacks are practically always associated with increasing constipation.

Theoretically such a condition ought to clear up completely if we take the previous case as a guide, but there is evidently an unknown factor at work which is preventing the best result. Is this the toxic factor, or is it that the normal endocrine balance has not been completely established? It seems to me that the toxic factor is here the predominant one and there is no doubt that it is being maintained by the very large numbers of adhesions which are undoubtedly present in the abdomen, round the terminal coil of the ileum and equally round the colon, particularly the descending colon. It is possible that surgery would solve this problem completely by removing the adhesions and placing the colon in a more normal position.

Such is the contrast in the results in epilepsy in the child and in the adult. In the former, while the endocrine signs are as definite and clear as in the latter, and while in both the evidence of toxemia is equally definite, there is undoubtedly a factor which prevents the best results in the adult. It would almost appear as if the presence of the adhesions in the adult were a potent contributing cause. We may assume that, in the child, adhesions have not had time to form and therefore the toxic side of the condition is much more amenable to treatment.

Acidosis

To mention acidosis is to open up a very wide field for discussion, yet it seems to me that there is a place for this condition in the study of endocrine dysfunction. There are many cases in which acetone bodies are found in large amounts in the urine and clinically the signs of hypothyroidism are most marked. Most cases of hypothyroidism give an enormous increase in the total acidity of the urine in terms of N/10 NaOH, but not all of these show the presence of acetone bodies in more

than traces. There are a few, however, in which, along with the enormous increase in the acidity, acetone bodies are present in great amounts. In this type of condition there is quite frequently a history of "indigestion"—not the type of condition related to taking of food, but rather a sense of weight and discomfort in the epigastrium and right hypochondrium, which is increased by even the smallest amounts of the most easily digested foods.

If a descriptive term were applied to this condition one would call it "subthyroid indigestion," for it is invariably associated with hypothyroidism. Clinically the picture varies. In the child we find attacks of cyclic vomiting, associated with acetonuria; in the adult there may be no definite symptoms to suggest acidosis yet, frequently in these there is a history of "biliousness" as a child. In both, however, there are very definite signs of hypothyroidism.

In the urine, in addition to the acetone, there are, as a rule, very large amounts of putrefactive derivatives of the amino acids, and both indican and skatoxyl may be present at the same time. It is probably worth note that, so far, all the cases of this type that have been examined with a bismuth meal have shown a dilatation of the pelvic colon.

Many cases of this type have come under observation and the group may be illustrated by the following:

Two sisters, aged 6 and 2 years respectively, a third girl aged 7 years and a cousin of these two, all had attacks of cyclic vomiting. Each child showed definite signs of hypothyroidism and their mothers (sisters), had both been under treatment for toxemia of intestinal origin and for the usual endocrine dysfunction which is so common in these cases. As a matter of fact the history of the mother of one of these children has already been given above. Each of the three children suffered from constipation, and the worse this became, the more frequent were the attacks of acidosis.

The attacks commenced in the elder of the two sisters when she was 3 years old, and until she came under observation the attacks had been gradually increasing in severity. Treatment at the outset here was chiefly by a polyglandular mixture, with, of course, special attention to the intestinal tract.

For some two years this child had been free from attacks when, unfortunately, she developed an attack of "gastric flu" which was promptly followed by two attacks of severe acidosis. When she came under observation again a few weeks ago, an interval of some three months had elapsed since the last attack of acidosis, during

which time she had again been taking the polyglandular mixture which had been dropped because of the absence of symptoms.

A urine examination showed no acetone bodies and, though the total acidity was high, it was under the maximum normal figure. Large amounts of putrefactive derivatives were present, both as skatoxyl and indican, the latter being in the greater amounts.

Before the x-ray examination with a bismuth meal was done, I suggested that we would find a fixation of and a delay in the terminal coil of the ileum and also a dilated pelvic colon. Such were the conditions found. This child is, and always has been, of the subthyroid type and, as already noted, at the time of the return of the vomiting, had not been taking the polyglandular mixture.

Her sister, aged 2 years, had her first attack early this year and this appeared first following the "gastric flu" with which she became infected. The urine picture and the x-ray examination gave practically similar results to those already detailed, with the exception that there was less obvious delay in the terminal coil of the ileum and a very definite delay in the pelvic colon which was much dilated.

The third child, the cousin of these two, had a very similar clinical history and urinary findings, and she also was definitely subthyroidic. Polyglandular treatment with, in addition, special attention to the intestinal tract, was effective in clearing up the condition completely and there have been no further attacks over a period of more than three years.

As already noted, acetonuria may be present in an adult without the characteristic symptoms, though on the other hand many of these patients complain of severe headaches. Leaving out this last group, one has very often seen large amounts of acetone bodies present in the urine where clinically all the signs of endocrine dysfunction are present. A few notes on the most recent case of this type will serve as an illustration.

The patient, a man aged 42 years, presented all the signs of hypothyroidism and hypoadrenia, which found their expression in what might be termed "neurasthenia." Underlying the endocrine condition there was undoubted toxemia. The urine gave the characteristic skatoxyl figures, the total acidity, in terms of N/10 NaOH, was at the high figure of 117.6 and acetone bodies were abundant.

The clinical signs of endocrine dysfunction were so clear that there was little hesitation in classifying this case as one in which the acidosis was dependent on the endocrine disturbance. There is every hope that, with proper glandular therapy and special attention to the intestinal tract, there will be a complete recovery.

So many cases of this type have come under observation and all have, in time,

lost all signs of the acidosis under endocrine therapy, that it seems more and more probable that a definite relationship exists between some cases of acidosis and endocrine deficiency. On the other hand, one case of acidosis is a distinct puzzle and is worthy of special note:

A little girl, extremely healthy, showed, at the age of six months, signs of a fracture of the tibia which had probably happened at birth. To all appearance it was a simple condition, but when examined under the x-rays it was seen that the fracture was through a cyst.

After six months splinting, as there was no sign of improvement in the shape of the leg, it was decided to operate, bearing in mind the mechanical difficulties as well as the possibility of non-union.

When the plaster was removed some 10 weeks later, there was no sign of bony union. Massage, radiant heat, etc., were all applied, and in spite of the fact that there was no evidence whatever of endocrine dysfunction, it was thought that glandular therapy, with calcium, would be helpful. Small doses of thyroid, parathyroid, thymus and calcium lactate were given and, at the end of 10 days, the child was violently sick, a condition which lasted for 8 hours and which cleared up as suddenly as it started. The urine was loaded with acetone bodies but no putrefactive derivatives were present.

Thinking that, as sometimes happens, the thymus in the mixture was responsible for the attack, this was omitted and the thyroid, parathyroid and calcium were given. In 10 days more there was a further attack of sickness and vomiting and again the urine was loaded with acetone bodies. In spite of this the mixture was still carried on and again in ten days more there was another attack. This seemed conclusive that the gland therapy was responsible and all such treatment has been dropped and the child has not had a single day's illness during the past eighteen months, nor has the slightest trace of acetone been found in many specimens of urine examined.

It would have been interesting to have solved the problem as to which part of the prescription was responsible for the attacks, by gradual elimination, but one could not submit such a young child to the possibility of recurring attacks of sickness and so the problem remains unsolved. It may be that here the extra thyroid administered to a normal child was sufficient to cause a state of temporary hyperthyroidism which, as is well known, is not infrequently accompanied by attacks of acidosis.

Much more could be written on the relationship which seems to exist between acidosis and endocrine dysfunction and many further illustrations could be given, but those noted seem to give the most characteristic signs and symptoms of both conditions.

Hypo- and Hyper-function

It would appear from the cases described, that toxemia of intestinal origin is always associated with hypofunction of the ductless glands, yet while this condition is by far the more common, hyperfunction is by no means a rarity. Perhaps the commonest example is hyperthyroidism in its extremest form, exophthalmic goitre. One such case will be sufficient to demonstrate this relationship:

A woman, aged 37 years, had been "nervy" for years but until within the past two or three years had shown no sign of thyroid enlargement. Some 10 years previously, she had had to rest because of an "irritable heart." During the past two years the thyroid had shown signs of enlargement, particularly of the right lobe. For the six months prior to coming under observation, there had been a steady loss of weight, and tremor was definitely more marked. Attacks of diarrhea had become steadily worse during the past three months and, taking the condition as a whole, it was very bad indeed. There was practically no exophthalmos.

The urine was extremely acid (in terms of N/10 NaOH) and sugar was present up to 0.48 grams percent. Putrefactive derivatives were abundantly present, particularly as skatoxyl, though traces of indican were found.

The pulse was rapid (102 beats per minute), and the blood pressure was, systolic 162 mm. diastolic 72 mm.

There was a history of constipation extending over a very long period, until recently. Mucus had been present in the stools.

Weight at the time of examination was 6 stone 2 pounds (86 pounds); height 63 inches.

Treatment was primarily directed to the intestinal tract. Gradually there was a clinical improvement, shown in a lessening of the rapidity of the heart's action, diminution of the tremor, improvement in the diarrhea, a gradual increase in weight, and a slight reduction in the size of the thyroid. During six months of treatment the urine was examined at frequent intervals and there was a steady reduction in the amounts of the putrefactive derivatives, the indican disappearing first. At the end of six months the urine was practically normal, with the exception that the sugar was still present though in only half the amounts originally found.

By this time the patient was so well that she did not report progress for nearly eighteen months. At the end of this period all the symptoms had disappeared with the exception of a slightly increased heart's action, the pulse averaging some 80 beats per minute. There had been considerable worry over the presence of the sugar in the urine—it had completely disappeared by this time—and, to relieve the patient, a blood sugar examination was done and the result was 0.16 grams percent.

To help to complete the cure of the condition, antagonistic glandular therapy was prescribed in the form of pancreas gland, and a few weeks of this treatment brought the pulse rate down to 70 per minute, and at the last report, received recently, the weight was over 8 stone (112 pounds) the pulse rate 70 per minute, there was no tremor, thyroid enlargement completely gone, bowels regular, and general health excellent.

Here, then, is a case of hyperthyroidism which, on chemical examination of the urine, showed every sign of toxemia of intestinal origin and the treatment directed against this toxemia was successful in reducing the glandular overactivity to nearly normal; and then a few weeks of antagonistic therapy was effective in bringing about a complete cure of the condition.

One more case is of very special interest in that there had been for several years an almost complete inactivity of all the ductless glands. So many examinations have been made for this patient that they are worthy of full quotation, the more particularly since they show, to my mind, a very definite toxemia of intestinal origin, along with the endocrine symptoms, and there has been an improvement in the condition since the toxic side has had attention at the same time as the endocrine:

The patient, a male aged 50 years, had been extremely healthy up to the age of 36, when he had an attack of anterior poliomyelitis which resulted in a partial paralysis of his right leg. Eight years later impotence began and has progressed to absolute sexual inactivity. Two years later he had to give up work because of lack of concentration and increasing irritability. There was a progressive asthenia and walking across the room increased the pulse rate to 160 or more.

All the teeth were extracted because of pyorrhea. Rectal irrigations helped considerably to regain some color. Some two years ago he had a course of Abrams treatment which he says was the first treatment that helped him. There was an attack of tonsillitis about a year ago, and soon after this there was trouble with fissure in ano.

The skin is bronzed from exposure to sunlight. Axillary hair is absent and pubic hair is of feminine distribution. Hair on the face has practically disappeared. The nails are ridged and somewhat brittle. Hands and feet are very cold. Testicles are completely atrophied. Blood pressure at time of examination was 104/80.

There had been some rales heard in the middle lobe of the right lung.

A diagnosis had been made of hypoadrenia, hypopituitarism, hypothyroidism, testicular atrophy and pulmonary tuberculosis.

An x-ray examination of the sella turcica and of the lungs had been done and the following is an outline of the report: "Sella exceedingly large, measuring approximately nineteen millimeters, by fifteen millimeters deep. There is considerable disturbance and destruction of both the posterior clinoid processes. This appears to be an active process of some nature, as shown by the bone fragments present surrounding and separate from the processes themselves.

"*Lungs:* There is an unusual amount of peribronchial thickening in both lungs, from the hili well into the periphery of both lung regions of the middle and lower lobes. On the right side of the middle lobe there is a veiling of a considerable area, suggestive of pleural thickening. Apexes of both lungs do not show clear but contain shadows of what would be called, in a younger individual, beginning secondary infection of tuberculosis. It is my opinion of this case that there is some active process of pulmonary tuberculosis in this region, more marked upon the right side, both middle and upper lobes."

Basal metabolic rate, minus 32.

Sugar tolerance test. Patient's weight, 154 pounds.

	Blood sugar	Urine Sugar
Normal		negative
1st hour	55 cc.	negative
2nd hour	100 cc.	negative
3rd hour	120 cc.	negative

Glucose administered, 122.5 Gms.

Such is a brief outline of the excellent history and result of various laboratory examinations that came to me with the patient some six months ago. While I am in complete agreement with the diagnosis, so far as the endocrine side is concerned, I am doubtful of the diagnosis of the pulmonary condition. An x-ray examination of the chest showed all that has already been stated, but my interpretation of these signs is different from those detailed.

In the usual routine examination of a condition of this type I usually take the simple blood picture, with the chemical and bacteriologic examinations of the urine and stools as a guide to possible cause of such a condition. In the blood picture, as I got it, I obtained results which I have come to associate with the presence of a predominating streptococcus. With one exception we need not go into full details of the blood picture but that exception is, to my mind, of first importance. The *Arneth Index* has always seemed to me to be an excellent guide to the presence of active tubercle, in which condition it is always very low. Here, on the other hand, it is at 2.65, instead of a normal 2.76, and, in many hundreds of indices, I have never seen such a reading where there is active tubercle. As against this, I have seen, time after time, a similar reading to this where streptococcus is specially increased and, in one case in particular, which had similarly been diagnosed as tubercle of the lung—and with which diagnosis I did not agree,

from the *Arneth Index* alone—I found a practically pure culture of streptococcus in the stools and treatment of this cleared up the pulmonary condition both clinically and, more important still, as shown by x-ray examination of the lungs before and after treatment.

In the case we are discussing I expected to find an increase in the streptococci in the stools when they came to be examined culturally and, in several specimens examined, there was a very large increase in these organisms. I looked on the pulmonary condition here as a streptococcal invasion and not tuberculous, and it has undoubtedly improved by special treatment.

The routine laboratory examinations were carried out, not to decide the pulmonary lesion, but rather to decide whether a toxemia of intestinal origin were present and how far this could be associated with the very obvious endocrine disorder. From the blood picture and from the comparatively large amounts of skatoxyl present in the urine, there could be no doubt that the colon was at fault and that there was a very definite toxemia of intestinal (colon) origin present.

In addition to the large numbers of streptococci present on culture of the stools, there was a very large percentage of colonies of a non-lactose-fermenting organism which gave the sugar reactions of the Gaertner group of organisms, but which did not agglutinate with any of the serums that could be obtained, so that, unfortunately, it could not be accurately grouped. It disappeared from the culture plates while intestinal treatment was being carried out; it reappeared when the treatment was stopped, and again disappeared with treatment. During its first period of absence, progress towards recovery seemed to be rather more rapid than during the period of its subsequent presence; and again on its disappearance the same fact was observed. It is impossible to say that this organism is in itself the cause of the endocrine disturbance or whether its association with the streptococcus has increased its toxic activities, but it seems to me that there is no doubt of the relationship here between the intestinal condition and the endocrine dysfunction. Certainly, since the intestinal state has been dealt with, at the same time that special glandular therapy, both oral and hypodermic, has been used, there has been a more decided improvement than there ever had been. The right testicle has shown signs of recovery, in that it is now palpable; whereas, before, nothing could be felt on the most careful examination.

Naturally the notes on this case are far from complete but they are so specially interesting that even in their incomplete state they are worthy of special mention as showing the relationship between a toxemia of intestinal origin and a very definite endocrine dysfunction.

Such are a few notes on dyscrinism and the relationship between such conditions

and toxemia of intestinal origin. They must, of necessity, seem incomplete, but the relationship is only very gradually revealing itself and only many routine examinations, from the intestinal side, will show completely whether the present idea will be fully confirmed.

The chemical examinations of the urine are simple and the bacteriologic investigations of the stools are equally so, and it may be that, before complete confirmation

is obtained, more complicated chemical tests may be required.

Clinically, endocrine therapy is of undoubted value, but there is no doubt in my mind that endocrine therapy, along with measures dealing with the possible septic focus which may be the cause of the glandular dysfunction, is of still greater value, and that the results obtained with the combined treatment are far better than if either condition were dealt with alone.

19 Harley St.

Local Anesthesia in Urological Surgery

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WITHIN the last few years, great strides have been made in the performance of urologic operations under local, sacral, para-sacral and spinal anesthesia, and the results have been most interesting, not only from the standpoint of the patient but from the much better results obtained by the operator. In fact, recent advances in the field of local anesthesia have led to a refinement in technic, with an exact knowledge of the choice of solution, the proper percentage and exact mode of introduction.

The advent of local anesthesia into this field can well be regarded as a landmark in the advance of genitourinary surgery. As a result, we can now offer a better prognosis in those cases in which we find pulmonary tuberculosis, longstanding cystitis, pericarditis, broken compensation, diabetes, and also to those patients with renal disease bordering on uremia. We are all well aware of the fact that most urologic patients are bad subjects for a prolonged general anesthesia, and if we can secure, with local anesthesia, that perfect relaxation which follows etherization, without subjecting the patient to a long ether narcosis, with its resulting effects upon the kidneys, bloodpressure, etc., we are indeed accomplishing something worth while.

It is a well known fact that, in many of our prostatic cases with poorly functioning kidneys and infected, trabeculated bladders, we are able to give them water, even during the operation or immediately following. Besides, there is practically no

vomiting such as we see when a general anesthetic is administered.

At some of the urologic institutions it was imperative for some time to administer, intravenously, to those patients who went into shock, solutions of gum-glucose to combat the rapid and thready pulse, rapid respirations, etc. Since many experimenters, among them Bayliss, Cannon, and others, have proved that shock is due to continued trauma, prolonged anesthesia, excessive loss of blood and prolonged surgical procedures, with the advent of local anesthesia it has been possible to eliminate all four of these factors for the following reasons: the application of local anesthesia produces less trauma, there is less bleeding, the lungs and kidneys are not impaired and the patient makes an uneventful recovery. Blood pressure readings recorded by the writer have shown that there is very little or, at times, practically no drop in the blood pressure in patients operated upon under local anesthesia.

The following procedures in the induction of local anesthesia were used by the writer in a series of seventy-five urologic operations, the anesthetics comprising the sacral, para-sacral, spinal, para-vertebral, and regional methods, depending upon the type of operation to be performed.

Operations on Scrotal Contents

Operations upon the scrotal contents; e.g., for hydrocele, varicocele, orchidectomy, undescended testicle, etc., were performed with the regular hernia incision, extending from the spine of the pubis obliquely upward on a line with the anterior superior

spine of the ilium, just above Poupart's ligament. The incision could be prolonged downward or upward, depending upon the condition found. The Bassini closure method was applied in most cases.

The technic consisted in raising four intracutaneous wheals, a 2-percent novocaine (procaine) solution being used, the approximate locations of which were as follows: a point just internal to and above the anterior superior spine of the ilium

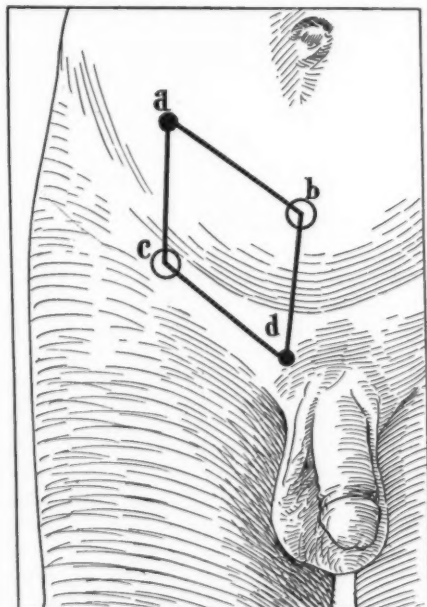


Fig. 1.—Injection for operations upon the scrotal contents. Wheals at a, b, c, and d.

(Fig. 1-a); a point at the junction of the middle and lower thirds on a line drawn from the umbilicus to the symphysis, (b); a point at the spine of the pubis, (d); and a point just below the mid-line of Poupart's ligament, (c). From 5 to 10 cc. of the solution was injected into the first wheal, just above and internal to Poupart's ligament. A long, small-gaged needle was used, its point being directed toward the iliac fossa until the bone was reached.

It must be remembered that the solution is to be injected continuously as the point of the needle advances. The needle is then slowly withdrawn until its point is felt under the subcutaneous tissue and re-directed toward the adjacent wheal, infiltrating the subcutaneous and muscular tissues respectively. It is then inserted into

the adjacent wheal and the solution injected following the technic just described. In this manner, the operative area is completely blocked off.

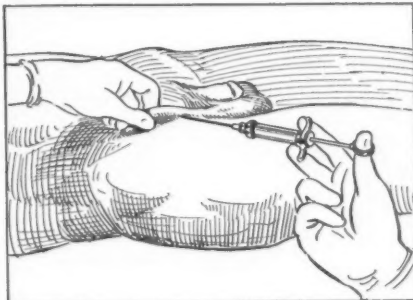


Fig. 2.—Showing injection of procaine beneath spermatic cord. An important step in operations upon the scrotal contents under local anesthesia.

The funiculus is then grasped between the thumb and index finger of the left hand and about 5 cc. of procaine solution injected beneath it (Fig. 2). In some cases it is necessary to infiltrate the corresponding side of the scrotum, following the line of the median raphe. With this method of

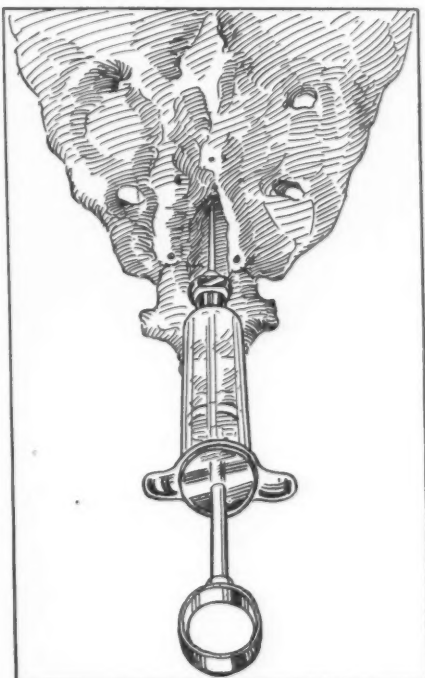


Fig. 3.—Sacral anesthesia. Showing introduction of procaine into sacral hiatus. The lateral sacral foramina are also injected when perineal prostatectomy is to be carried out.

procedure I have obtained complete anesthesia in practically every case, the only pain felt resulting from the first puncture of the needle in producing the wheals, and this could have been avoided had a little ethyl chloride been used.

Suprapubic Prostatectomy

In performing this operation, sacral anesthesia (Fig. 3) was combined with the local infiltration of the lower abdominal muscles (Fig. 4).

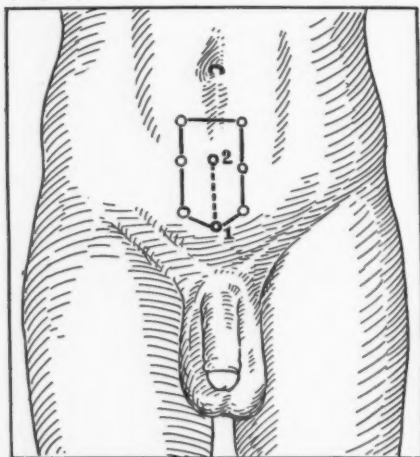


Fig. 4.—Local anesthesia for suprapubic cystotomy. Showing location of wheals and line of incision (1-2). When combined with sacral anesthesia, suprapubic prostatectomy can be performed.

Following a preliminary injection of $\frac{1}{2}$ grain morphine sulphate, which is administered about one-half hour before the sacral anesthesia is started, the patient is placed upon his abdomen or on his right side, if found more convenient; the sacral spine is then palpated, immediately below which is the sacral hiatus. A small wheal is made at this point, using a 2-percent procaine solution. The needle is then introduced, its point being made to enter about one inch below the last sacral spine and directed toward the sacral canal until the sacral hiatus is reached. If correctly placed, the needle should give the sensation of being in a free space. It is then advanced upwards for a distance of two or three inches, the procaine being injected during the process. If blood passes from the needle, its point must be redirected. About 30 cc. of the solution is injected and the patient remains upon the table, in the recumbent position, for at least one-half hour before the operation is started.

This type of anesthesia will influence the pudic, small sciatic, with its inferior pudendal branch, the vesical nerve and other small branches. Consequently, the lower part of the rectum, vaginal floor, perineum, bladder, prostate, clitoris, penis, and the posterior half of the covering of the external genitalia should be anesthetized. It must be remembered, however, that the scrotal contents are not anesthetized, since their nerve supply is the ilio-inguinal and the genito-crural. The duration of the anesthesia should be from forty-five minutes to two hours.

With this type of anesthesia, one can also perform internal and external urethrotomy, cystoscopies (particularly when indicated in cases of tuberculous cystitis), intravesical operations, passage of sounds and perineal prostatectomy, although the last named is best carried out when combined para-sacral anesthesia is used.

As was pointed out by Albert Scholl, the anesthesia first appears in the ano-scrotal area; in about four minutes it crosses the posterior surface of the scrotum and penis and spreads laterally over the inner surface of the thighs. Posteriorly, there is a complete relaxation of the sphincter ani, sacral muscles and buttocks. In ten minutes the anterior urethra is anesthetized, the internal sphincter and external meatus being the last to be affected.

Perineal Prostatectomy

In performing perineal prostatectomy, sacral is better combined with para-sacral anesthesia by injecting the lateral sacral foramina, which are located just below the posterior superior iliac spines. Over each of the foramina, a small intradermal wheal is made, using a 2-percent procaine solution. From 3 to 5 cc. of the solution is injected into each foramen.

These openings are not difficult to locate if one is familiar with the anatomy of the sacrum and its landmarks. The distance between the first and the second is from 1 to 1.5 cm., while the third is from 1.5 to 2 cm. below the second.

A very pleasing effect of this anesthesia is the absence of postoperative symptoms, although occasionally certain symptoms, as flushing of the face, rapid pulse, etc., may arise, which disappear after a few minutes.

I have also employed this type of anesthesia in cases of irritable bladder, tuberculous cystitis, and for fulguration of vesi-

cal growths. It can also be employed to advantage in urethral and ureteral dilatation and in litholapaxy.

Nephrectomy, Renal and Ureteral Calculi, Pyelotomy, etc.

In surgical operations upon the kidneys, ureters, etc., the advantages of para-vertebral anesthesia have become widely recognized. The technic which I employ is the same as that practiced at the Veribelly Surgical Clinic in Budapest. The patient is seated at the edge of the table with his shoulders bent slightly forward and held this way by an assistant or orderly. Upon an imaginary line drawn across the lower angles of the scapulae, at about 2.5 cm. from the edge of the vertebrae, (this is approximately opposite the eighth thoracic vertebra), an intradermal wheal is produced, employing a 2-percent procaine solution. In like manner, the ninth, tenth, eleventh and twelfth thoracic and the first lumbar vertebrae are injected (Fig. 5).

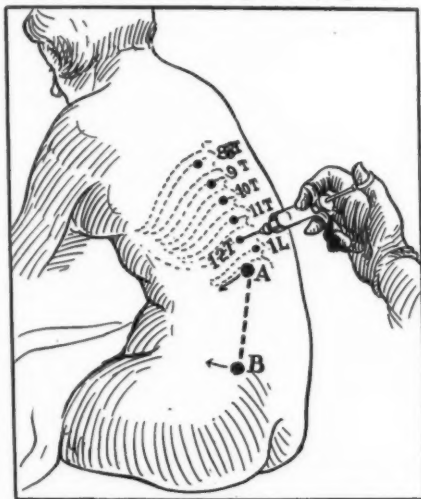


Fig. 5.—Technic of para-vertebral anesthesia for nephrectomy, renal and ureteral calculi, pyelotomy, etc. Wheals are produced at a, b (also at c, and d. Fig. 6), outlining an area bordering the line of incision.

The needle is inserted into each wheal successively until it reaches the body of the rib. It is then lowered until its point lies free in the intercostal space, at which moment a small amount of the solution is introduced so as to anesthetize the intercostal nerves. The needle is then withdrawn slightly, tilted at an angle of about 45 degrees, and further introduced until it strikes the body of the vertebra. About

5 cc. is introduced at each injection, a 1-percent procaine solution being employed. Following this, the line of incision should be blocked off by producing wheals at the outer angles of the area bordering the line of incision. The landmarks are approximately the spine of the first lumbar vertebra, (Fig. 5-a) the anterior end of the last rib (Fig 6-d) the anterior superior spine of the ilium (Fig. 6-c) and the posterior superior iliac spine (Fig. 5-b).

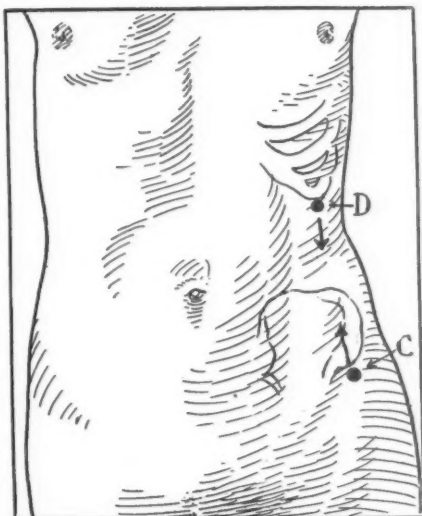


Fig. 6.—Para-vertebral anesthesia. Anterior view showing wheals at anterior end of last rib and anterior superior spine of ilium. Area to be outlined for the curved oblique incision.

As has already been described, the procaine is injected into the subcutaneous and deep structures successively. In cases of severe pyonephrosis, tuberculosis of the kidneys, etc., the value of sparing the opposite kidney as much as possible is very evident and we know that the administration of a general anesthetic carries with it a certain amount of danger. On the other hand, if the patient is very sensitive and of a neurotic disposition, one might experience some difficulty in carrying out this form of anesthesia, although, personally, I have seen no bad after effects from its administration.

Spinal Anesthesia

When visiting the various European urologic clinics, a few years ago, I was surprised to see the large number of operations performed under spinal anesthesia, particularly prostatectomies.

Although some urologists are opposed to the administration of spinal anesthesia, personally, I have seen no ill effects or complications resulting from its use. Occasionally one may notice some minor symptom, such as nausea, slight cyanosis, etc., but, as a rule, it disappears within a short time.

Among some of the annoying symptoms following the spinal administration of procaine, which have been reported by a few writers, are severe headache which persisted for three or four weeks, marked weakness and prostration, and, in a few instances, a fatal termination has occurred. These failures are undoubtedly due to faulty technic or unwise choice of patient, particularly one who is suffering from a severe cardiac condition. No one would condemn general anesthesia simply because of an occasional unfortunate experience. The same should also apply to spinal anesthesia which, when employed in the hands of an experienced surgeon, should prove absolutely safe.

The method which has given me the greatest amount of satisfaction is as follows: The patient is seated at the side of the operating table and, with the aid of an assistant, his back is well flexed forward, the chin resting upon the chest. Following the preliminary steps of asepsis and location of the landmarks, a superficial, intracutaneous wheal is made between the spinous processes of the third and fourth lumbar vertebrae, employing a 1-percent procaine solution. The ordinary lumbar puncture needle is then introduced at this point, in the same manner as when performing a lumbar puncture. When spinal fluid begins to escape, about 10 cc. are collected, following which about 8 cc. of a sterile, 2-percent procaine solution is very slowly introduced through the needle. The slow introduction of the solution is a very important factor and at least three to five minutes should be given to this procedure. While making the injection, the plunger of the syringe is withdrawn slightly, from time to time, allowing a small amount of spinal fluid to mix with the anesthetic.

The patient is allowed to remain in the sitting position for a few minutes and is then placed in a recumbent position with the shoulders and head raised. Much stress should be placed upon this last procedure, since many of the failures encountered at

this moment are due to keeping the patient in a position in which the head and shoulders are lower than the rest of the body, causing the procaine to ascend the spinal canal. Lack of sufficient anesthesia of the parts is also due to this error. The only contraindications are locomotor ataxia, very nervous and excitable patients, marked organic disease and cerebral tumors.

External Urethrotomy

An imaginary horizontal plane is drawn through a point just in front of the anus and this is infiltrated with a 1-percent procaine solution (Fig. 7). The index

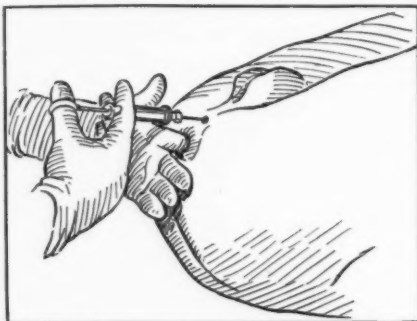


FIG. 7.—Technic of anesthesia for external urethrotomy, showing method of introducing procaine between the rectum and prostate, the index finger of the left hand being inserted into the rectum as a guide.

finger inserted into the rectum acts as a guide in directing the needle between the bulbous urethra and the anus. The solution is injected into the space between the rectum and prostate. The point of the needle is then directed in a fan-shaped area toward the ischio-rectal fossae, the solution being injected in the meantime. The final injection is made to include the subcutaneous tissue extending from the original point and directed toward the lower border of the scrotum. This type of anesthesia will influence all the branches of the pudic nerve and the posterior cutaneous femoral, which supply the prostate, urethra, and the external genitalia. Sacral anesthesia can be used instead with gratifying results.

For instrumentation of the bladder and urethra, as in performing cystoscopy, ureteral catheterization, fulguration of neoplasms, etc., the bladder is thoroughly cleansed and about 10 cc. of a 2-percent solution of procaine is introduced and retained for at least 10 minutes. The urethra is thus rendered insensitive.

In conclusion, I wish to emphasize that procaine, because of its low toxicity (300 cc. of a ½-percent solution can safely be given to a patient) and its effect in controlling pain, is the local anesthetic of choice. However, our success depends upon an exact knowledge of our landmarks, the production of painless intradermal wheals, gentleness in handling tissues, and the proper choice and control of the patient.

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Medical Malpractice Suits

Third Paper

By CZAR JOHNSON, M.D., F.A.C.S., Lincoln, Neb.

THE second or third physician who attends a patient is too frequently the starting point of a malpractice suit.

One doctor finds a case progressing unfavorably and he calls in a consultant to aid him; recovery is not satisfactory, the patient becomes dissatisfied or complains and requests that another doctor be called to the aid of the physician. These doctors are contemporary consultants.

A patient is dismissed from treatment, chooses to discontinue treatment or is referred to some other physician, or another physician is consulted with or without the consent or knowledge of the first physician. This physician is a subsequent consultant. A contemporary consultant might call the patient aside and explain what, in his opinion, the first physician in charge ought to have done and failed to do, but that does not often happen. The contemporary consultant as well as the physician first in charge are subject to action jointly.

Joint Liability

Physicians seem to be ignorant of joint liability. A prominent eye specialist was called into the ward to see a patient who had been operated upon for the removal of the Gasserian ganglion. He gave some advice to the surgeon and two years later was required to defend himself in a joint action against the surgeon and himself.

A surgeon was called into the operating room to assist another physician. He did not attend the patient afterwards but three years later was a defendant in a malpractice suit brought by this patient.

A physician went to a neighboring city to attend a patient as a consultant to the

family physician. He neglected to ascertain whether the family physician was competent to carry out his directions and two years later paid his proportion of a \$3,000 judgment.

The consultant can be summoned and compelled to testify to what he saw or what he observed and if so summoned he should tell the truth. He is under no obligation to form or express opinions.

In what particular does the position of subsequent consultant differ from that of the contemporary consultant? The subsequent consultant being called in, it is his professional duty to render the patient the most skilful services of which he is capable; so also the contemporary consultant. Manifestly the consultant's duty to the patient is identical, whether he is consulted contemporaneously or subsequently.

The medical profession appears to assume that the relationship of the subsequent consultant to the doctor previously in charge of the case is different. It is time that some one should ask why. His opinion about what might have been, if what was had been otherwise, or what might now be if what is were not, need never be formulated nor expressed. The suit can not be sustained without *opinion* testimony and so it is not brought.

No suit can start without medical opinion. I have endeavored to make plain that the success or failure of a suit for malpractice depends almost entirely upon opinion testimony which, if given at all, is given voluntarily. The volunteering of medical opinion in order to incite or sustain a malpractice suit against a physician is prejudicial and never justifiable. This should

be so defined in our code of ethics, and only in our code of ethics should the subject be dealt with. I want to make this emphatic because about every so often some misguided medical society proceeds to adopt rules, regulations or resolutions on this subject that produce disaster when read into the record of a malpractice suit.

Undermining Confidence

Physicians should be able to realize the undermining effect that repeated suits alleging negligence have on any organization. It has seemed to me that we are slow to recognize many of the excellent organization principles of industry. A number of years ago the general counsel for a very large corporation adopted the policy of avoiding law suits even to the extent of professional and financial sacrifice at times. Today this man's company, in his territory, has not only universal goodwill, but less suits are filed against his company in his division than in any other.

The effect of repeated law suits applies with particular force to the medical profession whose usefulness depends materially upon the confidence of the public. I appreciate that malpractice suits can not be entirely eliminated, but they can be reduced to an irreducible minimum, and those that then occur must be endured. Typhoid fever occasionally occurs, but that is not an argument against measures for prevention. Yellow fever once blocked a short passage way between the Atlantic and Pacific, but yellow fever was eliminated, these oceans became united and our national defense strengthened. There are few diseases that are incurable. Preventive medicine has the confidence of the public and is the foundation of modern medicine. Sacrifice, knowledge, and moral courage were required to produce it. The prevention of malpractice will require the same qualities.

The first requisite is knowledge of medicine, knowledge of liability and moral courage.

Medical knowledge is available to every physician who seeks it. There is little professional and no legal excuse for lack of knowledge.

The rule is that the treatment accorded must be that which is customarily prescribed by physicians doing a like class of work. Therefore surgical treatment must

be of a grade approaching the topmost in the community. The same holds true of the other usual divisions of medicine. Conceit or selfishness are not legal defenses. If disaster could have been prevented by assistance, and qualified assistance was available, a reasonably prudent physician would have sought it and failure to have done so is negligence. Any number of situations might be related wherein this aspect of the question arises.

Knowledge of liability is less available. State Medical Defense Committees should be busy furnishing the fundamentals as rapidly as their time and money will permit.

Moral courage is more difficult to disseminate. Egotism and selfishness are the offspring of ignorance. Ignorance is forgivable but not excusable. The aiding and abetting of ignorance or negligence is neither forgivable nor excusable. It will require moral courage to eliminate these vices and their disastrous effect upon medicine, but until it is done individual and joint liability will continue to be asserted in causes of action.

Physicians should more fully realize, not only their moral and professional obligations, but also their legal liabilities. Surgeons frequently operate in a country town, collect their fees and leave without written orders for the after-care of the patient. It is negligence to delegate to a referring physician of unknown ability unusual medical procedures, and should untoward results occur because of this carelessness a joint action may follow.

It will require considerable moral courage for the advanced physician to refrain from aiding and abetting a physician who is in legal difficulties because of his incompetency, yet sooner or later this will have to come about. The whole is greater than the part. The loss of respect of the courts and professional bankruptcy are at the end of our present medical defense policy.

Privileged Communications

The maintenance of strictly professional relations with patients and their relatives and the observance of privileged communications are imperative. Time was when a physician looked upon the information gained from a patient as sacred. The present-day custom of discussing cases at medical societies, the clubs, cafes and lodges, often describing patients so closely that the name might just as well be in-

cluded, has developed a laxity of respect for privileges. A privileged communication, except under very rare conditions, has always been held inviolate by the courts and is too precious to be thrown away.

Office and hospital records which often contain the strictest sort of confidential data are passed from one assistant to another, or to young trained nurses, and should some patient's reputation suffer because of idle remarks or information published by gossip the doctor may pay dearly for his negligence.

Newspaper reports of sickness and accidental injuries frequently contain confidential and privileged information. Some of these published accounts would make excellent trial evidence should some misguided physician be called upon to reimburse a patient for financial injury sustained from information volunteered by him.

Insurance companies frequently write to physicians for confidential information concerning a former patient. What right has the physician to divulge this information? Suppose that, because of the violation of the trust imposed in the doctor, the former patient or patient's family are financially damaged. Do you not think the physician would be liable?

Accident insurance companies invariably ask physicians for privileged information and written medical opinions regarding claimants, for which they sometimes pay 50 cents to \$1.00. There are physicians gullible enough to assume a liability for this sum and also to violate their moral and professional obligations.

The third requisite is abstinence—abstinence from voluntary statements of facts to patients, their relatives or legal representatives when such statements may directly or indirectly reflect upon the professional or personal integrity of another physician.

The expression of a personal opinion of another physician, if unfavorable, may result in intensifying the prejudice of the patient against the other doctor, cause distrust and disrespect for the critic or start a suit for damages, and in any event the profession as a whole suffers.

The expression of an unfavorable professional opinion of another physician or his treatment is a voluntary invitation to trouble. Aside from the financial and professional damages that may occur it may be very embarrassing to have the remarks written into a court record.

Frequently lawyers resort to social visits to secure information sufficient to draw up a petition. Often they use depositions to get a case before the jury. It is strange that highly ethical and educated physicians fail to appreciate this or recognize that a medical opinion, given socially or in the form of a deposition, may be just as damaging to the defendant as testimony voluntarily given in court.

Physicians must learn to abstain from expressing opinions that are detrimental to any physician or the medical profession, in court or out of court, regarding the condition or any events that may have occurred in a condition of a patient that has been examined for treatment or for the purpose of forming a hypothetical question or answer.

The medical profession should set itself to the task that has long been neglected. The issue is clear. Some form of treatment must be chosen for malpractice suits. Is it to be an expectant one, with sedatives and post-mortem deodorants, which requires little effort? Or is it to be modern preventive and applied therapeutics which requires collective action, discipline and moral courage?

Federal Trust Bldg.

The Interstate Postgraduate Medical Assembly and The American College of Physical Therapy

Reported by GEORGE B. LAKE, M.D., Chicago

MEDICAL society meetings are always good things. They further the progress of the science and art of medicine and encourage the spirit of fraternal co-operation among the physicians who attend them.

Two faults which have been found with some of the larger meetings have been that many papers are presented which, however necessary they may be in the literature, as works of reference, ought never to be read anywhere; and that a good deal of time is spent in "discussions" by men who have had little experience of the matters discussed but like to hear themselves talk.

There are two reasons for attending a great medical meeting: In order to add to one's equipment of practical professional knowledge; and as a respite from the cares and responsibilities of an active practice.

Wise physicians have trained their patients to expect them to take a vacation every year, but those who lack the self-confidence to do this are entirely justified in using a medical society meeting as a valid excuse for getting off for a few days of golf and other relaxation.

For those who are seeking actual postgraduate instruction there are two outstanding meetings each year: Those of the American College of Physicians and the Interstate Postgraduate Medical Association.

All physicians in good standing are eligible to membership in the latter organization, which held its meeting this year at Kansas City, Mo., October 17 to 22. This was an international meeting, many foreign medical celebrities being in attendance. More than 3,000 doctors, from all over the country, actually registered, and probably 1,000 more attended some of the meetings.

This was a place for work. The sessions began at 7:00 A. M. (at which hour about 2,000 were in their seats) and lasted until 10:00 or 11:00 P.M., with brief intermissions for luncheon and dinner, during the entire five days.

The lectures and clinics were practically all by men who are recognized authorities in their various lines. They were brief,

practical and to the point, and there were no discussions. It was a *real* school of instruction. There were 105 of these clinics and lectures during the week.

It will readily be realized that few men have the physical and mental endurance to sit through a solid program like this and get any very clear idea of everything that goes on. Moreover, the commercial and scientific exhibits were of great interest and, if one is to receive the keenest inspiration from such a meeting, one must get about and mingle with the sincere and enthusiastic men who are present.

The proceedings of this Assembly will appear within six or eight months and will fill a massive volume. I have picked out a few of the lectures upon which I took notes, which seem to me to have the greatest practical and general interest at this time, for abstracting. This is no reflection upon the value and importance of the others, but a line must be drawn somewhere, as our space is not unlimited. Among the famous names on the program which are not in this group of abstracts were: Dr. McKim Marriott, of St. Louis; Dr. Otto J. Kaufmann, of Birmingham, England; Professor S. A. Gammeltoft, of Copenhagen, Denmark; Drs. E. P. Joslin and Nathaniel Allison, of Harvard University; Dr. J. B. Collip, of the University of Alberta, Canada; Dr. Joseph Bloodgood, of Johns Hopkins; Dr. Jabez N. Jackson, president of the A.M.A.; Dr. Gustav Alexander, of Vienna, Austria; Dr. Hugh Cabot, of the University of Michigan; Dr. Charles Mayo, of the Mayo Clinic; and many others.

Physicians who fail to attend the meetings of the Interstate Postgraduate Medical Association are overlooking one of the best opportunities for professional advancement which this country affords, as will be suggested by the following brief abstracts.

Bronchospirochetosis

By Dr. Giuseppe Franchini, Bologna, Italy

Professor of Pathology, Royal University

Infections of the bronchi with spirochetes in association with fusiform bacilli, similar to those of Vincent and Castellani, are more common than is generally believed.

This organism is known as *Spirocheta bronchialis*, of which there are several varieties.

The physical signs of such an infection resemble those of ordinary bronchitis. The symptoms are somewhat like those of pulmonary tuberculosis, except that the expectoration is intermittent, tubercle bacilli are absent, the x-ray findings are not typical, and spirochetes and fusiform bacilli are present in the sputum. Hemoptysis and pulmonary gangrene are rather common.

The most successful treatment consists in the oral administration of 4 grains (0.25 Gm.) of stovarsol (acetarsone), after each meal, or the use of neoarsphenamine, intravenously.

Factors Fundamental to the Healing of Tuberculosis

By Dr. Francis M. Pottenger, Monrovia, Calif.

In the active stages of tuberculosis, more patients are killed by exercise than by any other one thing. Do not let such patients come to your office, but put them to bed and go to see them. Sun baths also are useless in active cases.

Open air is not a specific remedy in tuberculosis: Air in motion is what is needed to produce results.

In properly selected cases, collapse of the lung, by producing artificial pneumothorax, is very useful.

Tuberculin is not merely fit for diagnostic tests; it is a very useful therapeutic agent, if properly used. In the early days, the doses given were too large, bad results were produced and the method fell into disrepute.

Tuberculin should not be administered until after the patient begins to establish a natural immunity; and then the doses should be very small and very carefully increased. Under such conditions it is frequently helpful.

The psychic factors must not be overlooked in the treatment of tuberculosis, for they may disturb the physiologic processes as surely and as profoundly as will physical causes and may even cause death rather directly.

When we remember that the tuberculous patient, who is often the breadwinner of the family, must remain in an institution or in bed at home for months, we can readily understand that business, domestic and financial problems may become very pressing and serious. Worry over these

matters may depress the patient's resistance to such an extent as to interfere markedly with recovery or even to determine a fatal issue.

The earlier treatment is started, the better; but we must not lose hope if the case is well advanced when it comes to us, for severe cases can be healed if cared for properly. Even cavities will heal under the proper treatment, if it is given long enough. Time is an essential factor, and it may require months or even years to carry a case to recovery.

The Etiology of Heart Failures

By Sir John F. H. Broadbent, F.R.C.P., London, Eng.

When uncomplicated valvular lesions of the heart occur, the blood vessels adapt themselves surprisingly well to the increased or diminished output of blood.

Tonicity and contractility are necessary to normal functioning of the cardiac muscle; and myocardial damage may impair both of these.

Exercise, even the severe work of the athlete, will not damage a healthy heart, which is able to adapt itself to conditions produced by a wide range of activity. But such exercise may be decidedly harmful to a damaged heart, in some cases. If the tonicity of the muscle is good, no dilatation will occur.

Bacterial toxins, especially those of acute rheumatism, impair the heart's tonicity, and enormous dilatation of the organ may result from the effects of toxemia.

Graves' disease, chronic alcoholism, general toxicosis and other conditions may cause derangement of the contractility of the heart and give rise to attacks of anginoid or true anginal pain. If the underlying conditions are remediable, these patients will recover under proper treatment. Angina due to syphilis, coronary sclerosis or fatty degeneration of the heart does not get well.

Some derangements of cardiac rhythm, if unduly prolonged, may impair the contractility of the heart and cause death; but these conditions are, as a rule, not dangerous, though they may cause excessive discomfort to the patient and much anxiety to the physician.

Poliomyelitis

By Dr. Milton J. Rosenau, Boston, Mass.

Professor of Preventive Medicine and Hygiene, Harvard Medical School

Epidemics of acute, anterior poliomye-

litis (infantile spinal paralysis) occur about every three years, for some reason that we do not know. We are having a good many cases this year, so we may be on the lookout for another outbreak in 1930.

The incubation period is not, as has been stated, 1 or 2 days, but runs from 7 to 14 days. The virus is ultramicroscopic.

We do not know how the disease is spread; but probably it is *not* by contact. Three outbreaks were definitely associated with *raw milk*, but this is not the usual method of dissemination. The fact that most of the cases occur in the summer months suggests that the portal of entry may be the gastrointestinal tract. Recent studies are adding to our knowledge of the disease.

The onset of an attack is *sudden*. The fever is *moderate* (101°F.), but the pulse rate is decidedly high in proportion. Frontal headache is generally present, with *deep* pain and tenderness in the back and limbs—*not in the joints*; gastrointestinal symptoms (vomiting and constipation or diarrhea); *slight* sore throat; tremors on exertion; *stiffness* of the neck and back, but not so severe as in meningitis (if the patient sits up he will support the spine by resting both hands on the bed); and *marked prostration*—out of proportion to the symptoms.

Spinal puncture reveals the fact that the cerebrospinal fluid is *under pressure*, opalescent in appearance and contains an excess of cells.

All these symptoms persist for several days (constituting the preparalytic stage), and then there is a partial or complete *remission* for a day or two, leading to false hopes of recovery. This is the time for special watchfulness, as the patient will relapse again, and this is the time *paralyses* appear in any part of the body—sometimes the fatal ascending or Landry's paralysis. If the patient recovers, second attacks are unknown. Diagnosis rests upon the *exclusion* of all other causes that could produce the symptoms.

Treatment: In poliomyelitis, *antibodies* form in the blood, and hence it is reasonable to suppose that *convalescent serum* will be useful, in the *preparalytic stage*, as it is in measles or scarlet fever.

Withdraw 15 cc. of cerebrospinal fluid and replace it with 15 cc. of sterile, human convalescent serum, at the same time injecting 30 cc. of the serum intravenously.

Repeat the intraspinal injection of 15 cc. after 24 hours.

This procedure is still in the experimental stage, but we have treated 50 cases by this method, with *no deaths* and only 3 instances of severe paralyses. This is a decided improvement over the ordinary statistics.

In the active stages, all cases should be treated by *complete rest*, in bed, taking especial pains to keep the legs in an easy, comfortable and natural position, so that, if paralysis should occur, the resulting deformities will be minimized.

Male and Female Hormones

By Dr. Sigmund Frankel, Vienna, Austria
Professor of Experimental Medicine, Imperial Royal University of Vienna

Sex desire is periodic, in all animals except man; and in human beings it may be stimulated at any time by the presence of a desirable object.

During pregnancy the functions of the ovaries seem to be suspended, but the secretion of the placenta appears to compensate, in large measure, for this deficiency. This secretion initiates the activity of the breasts and checks sex desire.

There is sufficient evidence at hand to assure us that the hormones are definite chemical substances, secreted periodically, but we do not yet know their exact nature nor chemical structure. Careful experiments are now being made to determine these matters.

Surgical Treatment of Gastric Ulcers

By Mr. Garnett Wright, F.R.C.S.,
Manchester, Eng.

Lecturer in Surgical Pathology, Victoria University

We do not know the cause of gastric ulcer. There seems to be little connection between gastric ulcer and cancer. The cancer history is short and the ulcer history is often long, without any malignant development. Moreover, cancer occurs most frequently at the pylorus and ulcer on the lesser curvature.

When a patient with a chronic ulcer of the stomach has had one hemorrhage, he should be operated upon. If the ulcer heals without operation it is likely to recur, with severe hematemesis or perforation. Otherwise the patient suffers for years and may finally die of inanition.

If a gastrojejunostomy is performed the anastomosis should be made near the pylorus. It is best, at the same time, to resect the ulcer, generously, or the stomach.

If an operation is performed for the resection of ulcer, a gastro-enterostomy or pyloroplasty must be carried out at the same time, in order to furnish a safety valve.

The Relation Between Gastric Ulcer and Cancer

By Dr. Aldred S. Warthin, Ann Arbor, Mich.

Professor of Pathology, University of Michigan

I do not believe that there is any direct relation between ulcer and cancer of the stomach. Diagnostic criteria are faulty. Cancer can, of course, arise in the scar of an ulcer, but this is *rare* (about 6 percent in my series of 200 cases of cancer); and carcinomas almost always ulcerate, sooner or later.

Familial, constitutional features are of the utmost importance. In fact, we are approaching a *constitutional philosophy of medicine*.

Many observers have reported a high proportion of gastric ulcers occurring in persons with a familial history of the same condition, sometimes occurring in several generations. The same sort of cancer histories are found in the antecedents of cancer patients.*

All neoplasms rest on an hereditary, constitutional predisposition or weakness and on a specific, organ predisposition. In men, the gastrointestinal system is most frequently attacked; and in women, the genitourinary system.

An hereditary predisposition to gastrointestinal disease may manifest itself as ulcer or cancer or a chronic "nervous dyspepsia," as is proved by many carefully studied family histories.

Tabetic Optic Atrophy

By Dr. George F. Suker, Chicago, Ill.

Professor of Ophthalmology, Postgraduate Medical School

Once a man is a syphilitic he is always a syphilitic, either obvious or unrecognized.

In tabes, the characteristic eye finding is optic atrophy: In paresis, it is optic neuritis.

When you throw light into the eye of an early tabetic patient the pupil will contract at once, but *soon* it will dilate again, this being followed by another period of contraction.

This condition is often *unilateral* and appears long before any of the other symptoms of tabes.

*A number of slides showing the hereditary predisposition to ulcer and to cancer were shown—Ed.

If we treat our *early* cases of syphilis *vigorously*, we will have no cases of tabes or paresis. The sloppy treatment now given to many syphilitics is a disgrace to the profession.

Optic atrophy develops in 15 to 20 percent of patients with tabes, the first symptom being a slow adjustment to light. The visual fields become contracted and there is loss of recognition of colors, especially red, green and blue. Bitemporal or binasal hemianopsia, in a tabetic, means that there is an *accessory gumma* in the region of the optic chiasm.

Atrophy begins in the *nerve*, not in the retina. In the *early* stages it can be arrested or improved. Few tabetics run a classical course: There is almost always some other syphilitic involvement.

If antisiphilitic treatment is to be of any value in the optic atrophy of tabes, the drugs must be injected into the cisterna magna or the lateral horn of the anterior ventricle. Either of these localities can be conveniently reached, by an experienced physician, through small trephine openings in the skull.

"Get the patient drunk on arsphenamine and then give the knockout blow with mercury. God made mercury for the treatment of syphilis." Cisternal injections of 1/50 grain of bichloride of mercury should be given every 10 to 15 days, up to 4 or 5 doses.

Acute, Nontuberculous Ilio-Psoas Infections

By Dr. Leroy Long, Oklahoma City, Okla.

Professor of Surgery, University of Oklahoma

Ilio-psoas abscess is closely associated with tuberculosis, in the minds of most physicians; but these infections are not always tuberculous, being frequently caused by staphylococci and streptococci.

The infection usually comes from a focus in some other part of the body, which may or may not show any signs or symptoms of its presence. The organisms may be carried by the blood or lymph stream. A severe strain of the psoas muscle makes a point of lowered resistance, where the bacteria readily find lodgment and suitable conditions for growth. These infections usually occur in boys between 5 and 17 years old, who are using their legs very actively during the formative period.

The signs and symptoms of nontuberculous psoas abscess are: Inguino-crural pain of moderate degree; remittent fever, going to 102° F.; limping, sometimes developing

rather suddenly; and progressive flexion deformity of the thigh on the affected side, painful only when the limb is extended.

After 2 to 3 weeks, a tender mass develops near the anterior, superior iliac spine; the leukocytes increase to from 18,000 to 27,000; anemia and progressive emaciation, with the presence of a good appetite, appear if the infection is not treated for several weeks.

The treatment consists in incision and drainage. If no pus is found outside the psoas muscle, the muscle itself should be opened, when pus will generally be encountered between its fibers. This treatment usually results in complete recovery within 3 weeks.

Osteomyelitis

By Dr. Dean Lewis, Baltimore, Md.

Professor of Surgery, Johns Hopkins University
Medical School

In children, osteomyelitis usually affects the epiphyses and may closely simulate arthritis. It is generally the result of infection with streptococci or pneumococci.

Acute arthritis of the sternoclavicular, temporomandibular, intervertebral or sacroiliac joints, alone, is almost always due to an acute gonococcal infection; though gummas may occur in the same locations.

New bone formation must not be confused with acute, articular rheumatism, which shows pain, tenderness and fever.

In early cases of osteomyelitis, conservative treatment is best—simple incision, with or without drilling into the focus. More radical measures—opening of the marrow—may be instituted later if they become necessary. Early diagnosis and treatment are imperative if satisfactory results are to be secured.

Always be on the lookout for the deformities which so frequently follow this disease, and use appliances to prevent them before they develop.

Trauma of the Knee Joint

By Dr. John J. Moorhead, New York, N.Y.

Professor of Surgery, New York Postgraduate
Medical School

We must learn to recognize medical and surgical conditions of the knee joint and, in cases of doubt, we are justified in opening the joint cavity, just as we would open the abdomen, for exploration.

Loose bodies in the joint ("joint mice") require surgery. The x-ray may or may not show the true relations. We should not wait until the joint locks before recognizing the condition.

A diagnosis is made from the history and the presence of crepitus, localized pain, swelling, tenderness and dysfunction; perhaps "joint colic"; later, by atrophy of the parts.

The joint should be opened *freely*, by a curved incision passing to one side of the patella, sufficiently long to expose the entire cavity to inspection and necessary manipulations. The joint should be fully flexed, so that its entire inner surface is visible and accessible.

Asepsis must be fully as strict as that required for opening the abdomen; and the closure of the wound should be exactly like that of a laparotomy incision, handling the joint capsule just as you would handle the peritoneum.

After operation, the joint should be mobilized at the *earliest practicable moment*, so as to prevent stiffness and deformities.

Renal Factors in Diabetic Coma

By Dr. I. Snapper, Amsterdam, Holland

Professor of Pathology, University of Amsterdam

The ketones present in the body are the cause of diabetic coma which, if uncomplicated, disappears promptly after the administration of insulin. If the hyperglycemia disappears after giving insulin, but the patient remains "dopey," the kidneys are probably involved and such patients generally die within a few days, from vasomotor paralysis.

A diabetic patient may also have cirrhotic kidneys and may die of uremia. And then, there may be kidney diseases other than cirrhosis, showing albumin and casts in the urine, associated with ketosis. In diabetic coma we find an increase in the nonprotein nitrogen in the blood, due to renal impairment.

The kidneys are not merely excretory organs. They have an oxidizing function, especially for ketone bodies and acetone. These bodies are formed in the liver, but are not destroyed there: Their destruction takes place in the kidneys and the muscles; therefore, impaired kidney function can result in ketosis.

When a diabetic patient shows ketosis, the fats in his diet should be markedly reduced. *Petrén's diet*, consisting of large quantities of fat, a moderate amount of carbohydrates and a minimum of protein, may be perfectly safe in a hospital where the diet can be regulated with mathematical precision and the patient constantly

watched, but it is dangerous in the home, because it is impossible to keep the proteins down to the very small quantities required by this diet.

Chronic Arthritis

By Dr. David P. Barr, St. Louis, Mo.
Professor of Medicine, Washington University
Medical School

Proliferative (or rheumatoid) arthritis, affecting the hands, produces clinical changes in the proximal and middle joints of the fingers, with little x-ray evidence until late in the disease: *Degenerative*, or osteoarthritis occurs in older people and affects the terminal phalanges. The former is capsular and attacks the cartilages late; The latter attacks the cartilages early and bony ankylosis is common.

Never remove foci of infection (except for their own sake) unless there is positive evidence of a direct connection with the arthritis present.

Proliferative arthritis is an infection and may be associated with focal infections, in some cases; degenerative arthritis is very rarely so associated; gout, never!

The most disabling of all forms of arthritis is the proliferative type. It is generalized in location, and the tissue changes occur early. We can, at least, limit the disability by proper treatment. The degenerative form is more localized and not so crippling. Gout is the most painful.

All of these affections are essentially chronic, and treatment requires a long period of time, during which remedial measures must be applied regularly and continuously. We must conserve the patient's resources, physical and financial, for a long siege. It is folly for him to go away to some spa or sanitarium and spend all his money in one month.

In treatment, we must control the pain. One of the best drugs for this purpose seems to be amidoxyl, given intravenously. Some workers have reported surprisingly good results from the use of this remedy in cases of proliferative arthritis, but, aside from the relief of pain, it must still be considered in the experimental stage. Heat, including diathermy, infrared radiations, etc., is also useful in relieving pain. Narcotics should not be used.

See that the limbs are kept in such posture that, if stiffening or ankylosis occurs, they will be in positions to give the best service. Massage, heat and Morse wave currents will minimize atrophy and deformity.

It is very necessary that these patients be given such forms of *occupational therapy* as will enable them to earn a living at some work which their condition permits. This will enable them to maintain their self respect.

Any physician who will attend to his cases of arthritis, patiently, intelligently and individually, can obtain reasonably satisfactory results.

Carcinoma of the Larynx

By Dr. Fielding O. Lewis, Philadelphia, Pa.
Professor of Laryngology, Jefferson Medical College

In all cases of long continued hoarseness, the larynx should be examined carefully. We must distinguish between syphilis, tuberculosis and cancer. The two former conditions generally infiltrate the posterior (arytenoid) region of the larynx; cancer does this only rarely. A careful, general physical examination is frequently required to establish a diagnosis, and even this is not always successful. In doubtful cases a biopsy should be performed and the tissues studied histologically.

Carcinoma of the larynx offers a good prognosis if operated upon reasonably early. In fact, if a diagnosis is made when only the vocal cords are involved, 80 percent of the patients can be cured without losing the larynx. *Early diagnosis* is, therefore, of the highest importance.

If laryngectomy is to be performed it can be accomplished much more easily if radium and x-rays have not been previously used. Under ordinary circumstances the operation requires from two to three hours for its proper performance.

Many patients are alive and entirely well 4 or 5 years after a laryngectomy, and some of them develop a buccal voice which enables them to carry on a conversation or even talk over the telephone.* One patient swallows air when he is about to speak and regurgitates it to produce the voice. The posterior pillars of the pharynx seem to assume the functions of vocal cords.

The Treatment of Tic Douloureux

By Dr. Walter E. Dandy, Baltimore, Md.

No other pain is so intense and characteristic as is that of tic douloureux. It is sudden and paroxysmal and, once a case has been seen, is unmistakable. It may involve the fifth (trifacial) or the ninth

*Four patients were exhibited whose buccal voices were sufficiently loud so that they could be heard all over the auditorium, when speaking through the microphone.

(glossopharyngeal) nerve. In both nerves it is equally characteristic. It occurs in otherwise healthy persons over 30 years old. The etiology is unknown.

In affected persons the attacks may come on spontaneously or as a result of slight local causes, such as chewing, shaving, brushing the teeth, etc. The glossopharyngeal form may be induced by swallowing. Any one or all of the three branches of the fifth nerve or the ninth nerve may be involved.

These patients never recover spontaneously, but the modern surgical cure is very safe and certain.

There are three methods of surgical attack: Injection of the affected branch with alcohol; injection of the gasserian ganglion; and section of the nerve roots, distal or proximal to the ganglion.

1.—Injection of the branches relieves the pain for from 6 months to a year, but it then recurs and the operation must be repeated at intervals during the life of the patient.

2.—Injecting alcohol into the gasserian ganglion is a very dangerous procedure and should be avoided.

3.—If the nerve roots are cut distal to the ganglion, they regenerate and the pain recurs: If the section is made proximal to the ganglion, the results are certain and permanent.

The old (Cushing) method frequently resulted in corneal redness and ulceration and sometimes in loss of vision. The motor branch was occasionally damaged.

The new operation avoids all these bad effects. A skull flap is raised in the occipital region on the affected side. Through this opening the cerebellum is raised, exposing the pons, and the fifth nerve roots are cut, proximal to the ganglion, carefully avoiding the motor root. The root of the ninth nerve can be cut by the same operation.

Surgical Clinic

By Dr. George W. Crile, Cleveland, Ohio
Director, Cleveland Clinic

Case 1.—The patient gives a typical history of chronic gall-bladder cases. He has had an appendectomy, done through a McBurney incision—which, of course, permitted no examination of the liver and gall-bladder—from which he received no relief.

This patient is a "variant"—a neurasthenic; a thoroughly "good" man, because he has had no interests, enthusiasms or reserve energy which would lead him to overstep the conventions.

As a general proposition you will find it true that the greater the number of complaints, the less the probability of a local, organic lesion.

For this man, *no surgery* should be done, as it would probably aggravate his symptoms. He should have a general reconstruction by various forms of physical therapy. In a normal and robust person with the same symptoms, gall-bladder surgery would be indicated.

Case 2.—This girl, 18 years old, has studied hard in high-school, but has become nervous, developed gastrointestinal symptoms and suffered a loss of weight. Her neck is somewhat enlarged and her basal metabolism is plus 12.

Girls like this generally stand high in their classes, are active socially and are popular with their schoolmates. Mild hyperthyroidism makes interesting personalities. They live too fast and the parents frequently urge them on. They do not have enough rest and composure. We rarely see such conditions in boys. Phi Beta Kappa is a disease.

Patients with jaundice and intestinal toxemia are the opposite to this—they are slow, lethargic, uninteresting and cannot take the leading places; they are "tired all over."

After a period of rest the conditions present in this patient may subside but, after thirty, if life presses her hard, she will relapse and require thyroidectomy.

We must make these patients *slow down* in all ways—take them out of school, if necessary. We must study their domestic circumstances and correct them so far as possible.

"Hyperthyroidism is caused by the friction of people on each other." A trip abroad, giving a chance for diverting the mind with *things* rather than people, would probably be helpful.

Small doses of iodine are beneficial in some cases, but the patient must be carefully watched by the physician.

Examine carefully for focal infections and, if found, clean them *all* up thoroughly. A partial thyroidectomy may be necessary and, if not overdone, will produce no ill effects.

Hyperthyroidism does not originate in the thyroid gland itself, but the stimulation comes through the adrenals and the sympathetic nervous system and a vicious circle is formed.

The American College of Physical Therapy

Important medical meetings are piling up just at this time. Two weeks after the splendid meeting just reported came the Second Annual Clinical Congress and the Sixth Annual Meeting of the American College of Physical Therapy, October 31 to November 5. And then, in the middle of November (a few days after this is being written), will be the meeting of the Southern Medical Association, of which we hope to give you a report in due time.

These physical therapy meetings are getting better every year, and those who are interested in this form of treatment will surely get their money's worth if they make plans to attend them.

The first three days were filled with actual clinical demonstrations, given to small groups by thoroughly competent instructors, with lectures in the evenings. Two days were devoted to the meetings of the College, which now is so large that the material is presented in three sections — medicine, pediatrics, diagnosis and endocrinology; surgery, gynecology, urology and orthopedics; and eye, ear, nose, throat and oral diseases. Saturday was filled with clinics at the various Chicago hospitals.

The commercial exhibit was the best the College has ever had, and was a liberal education, in itself, regarding the tremendous improvements in the apparatus for applying physical methods to treating disease. A number of firms showed very fine carbon arc lamps, which are becoming more popular in this country; there were also several machines for general body vibration and massage. A portable whirlpool bath apparatus and what appears to be a fool-proof x-ray machine were among

the interesting developments which were shown for the first time at any meeting.

Space will permit the abstracting of only a very few of the practical and valuable papers which were presented.

Light Therapy in Tuberculosis

By Dr. Edgar Mayer, Saranac Lake, N. Y.

It is a great and fatal mistake to get the

idea that light therapy is all that is needed in the treatment of tuberculosis. We must use rest, surgery and other methods when these are indicated. Light therapy seems to be especially helpful in intestinal and peritoneal tuberculosis.

When artificial sources of light are to be employed, either the mercury vapor quartz lamp or the carbon arc lamp may be used for this purpose.

Diathermy Technic

By Dr. J. V. Giesey, Salt Lake City, Utah

When a patient is placed on an auto-condensation pad, his whole body is charged with induced, secondary electricity, which is drawn off through

the active electrode. He can lie or sit on the pad in his clothes, exposing only such parts of his body as are being treated. This is the best method for handling diseases of the gall-bladder, kidneys, pancreas and other abdominal organs.

The hand makes a very good electrode for giving diathermy indirectly, as it also acts as a rheostat, the strength of the current being varied by applying one, two or more fingers to the part being treated.

Diathermy should never be applied where there is confined pus, under pressure. In nasal sinus inflammations and infections, drainage can be secured, in many cases, by packing the upper part of the nose, high



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A Few Prominent Members of the American College of Physical Therapy. Left to right (standing) Drs. Maximilian Kern, of Chicago; R. W. Fouts, of Omaha; Frank H. Walke, of Shreveport, La. (president-elect); (sitting) Drs. Disraeli Kobak, of Chicago (retiring president); A. R. Hollender, of Chicago (chairman of the convention); Norman Titus, of New York.

up, with a cotton tampon soaked in a solution of epinephrin or, better, ephedrine. When drainage is secured, diathermy can be applied safely and profitably.

A current of high voltage is necessary when treating tissues whose resistance is high. According to Ohm's Law, the current strength equals the voltage divided by the resistance. One ampere equals one volt, acting against a resistance of one ohm.

Gentleness and time; not force and haste, must be used in giving diathermy treatments. No such treatments can be successful when given on a 10-minute basis. Time must be given for the current to affect the ions (wandering electrons).

Comfortable warmth is the measure of proper current strength. Severe heat or pain means overdosage. Make the patient comfortable, in every way, and give the treatment for an hour, if necessary. A comfortable patient cooperates.

Do not use diathermy in treating gastric and duodenal ulcers. Give calcium and parathyroid substance, by mouth, and apply ultraviolet rays sufficient to produce a strong erythema over the affected area.

The principal effect of diathermy is to *improve the circulation*. The blood carries off the heat, so that we cannot focus the current when treating through and through the body, but only by means of special, small active electrodes. Aim the current at the site of disease.

The diathermy dosage must be established for each patient, *individually*, and a record should be made of this for future reference.

Industrial Physical Therapy

By Dr. F. H. Walke, Shreveport, La.

We must always remember that we are physicians and surgeons first, and physical therapists as a secondary matter.

To clean a badly lacerated wound, filled with dirt and grease, use *gasoline* first, followed by "alcorub," which contains enough acetone to act as a fat solvent. Apply the air-cooled ultraviolet lamp, *close* to the wound, until a good reaction is obtained. Do not debride until later: The ultraviolet rays will restore vitality to much of the badly damaged tissue.

In case of head injuries, if the patient has been unconscious, *even for a moment*, put him to bed, with an ice-bag to his head, for a few days, for observation. Serious secondary results may follow, even in cases which do not appear to be severely injured.

In headache, with no slowing of the pulse or change of blood pressure, use diathermy through the brain (shaving the hair, if necessary, to make proper contacts), from the forehead to the nape. Use 200 milliamperes of current for 15 minutes or more. Do not increase the current. If this does no good, try galvanism, with the positive pole on the forehead and the negative over the solar plexus.

Rib fractures should be strapped and infrared radiations (not diathermy, in fresh cases) applied for one-half to one hour. After 4 or 5 treatments the pain will be relieved. The straps can be removed at the end of two weeks.

In severe abdominal injuries, with hemorrhage, surgical operation is indicated. If shock is present, use diathermy over the splanchnic area. In milder cases, apply infrared radiations over the abdomen for 45 minutes to one hour.

Most "joint" injuries are really ligamentous lacerations. Put the limb in a position to relieve the tension. In these cases, *motion* is more important than exact anatomical position, so *mobilize early*—by the 1st to 5th day.

In joint fractures, use no splints. Put the limb in a comfortable position and support it there. Apply infrared radiations for 20 minutes, every 2 hours, moving the joint a little each time. After two weeks, use diathermy, vigorously, every day. In these cases it is well to use two machines, set at different frequencies, with one set of electrodes placed to treat through and through, and the other in the form of cuffs, above and below the joint.

Phototherapy

By Dr. J. E. G. Waddington, Detroit, Mich.

The radiations from a heat-light lamp having a glass-enclosed filament act rather rapidly and the effects are not well sustained; moreover, the rays coming from the glass are irritating and the convective heat produced is unbearable, at close ranges. Such a lamp is satisfactory for producing *superficial* hyperemia.

In inflammatory conditions where heat is indicated, sustained action is necessary. In such cases it is better to use an infrared generator, whose heating element is not enclosed and is brought only to red heat. The rays from such an apparatus should be applied for hours or days, continuously; and this can be done with perfect safety. The ordinary electric bath-room heater,

having a copper bowl, is an efficient infrared generator. The only advantage of the larger and more expensive machines is in their added convenience and the psychic effect they produce.

The carbon arc lamp is an effective apparatus for generating a wide range of

radiations; and the impregnated carbons produce a large variety of spectrums, which facilitate careful and accurate prescribing. It is unnecessary to have one's office filled with elaborate apparatus. Far better is it to make a few machines work to their full capacity and variety.

Chlorazene in the Treatment of Infections*

A Case Report

By FRED B. FELLOWS, M.D., Glen Ellyn, Ill.

MR. O. N., residing in Glen Ellyn, Illinois, visited a barber shop on December 28, 1926, for the purpose of having his hair cut. The barber volunteered to open and drain a very small pustule on Mr. N.'s neck, which was done.

On January 4, 1927, Mr. N. called at my office and upon examination I found a small carbuncle at the site of the pustule. The area of congestion was about $1\frac{1}{4}$ inches in diameter, hard, red center, slightly swollen and very tender, with much pain. He was very ill in general. I applied a one-percent solution of chlorazene as a dressing, with instructions to keep the bandage well soaked. He called three times after his first visit. There was little change in the development of the carbuncle, but the patient was so ill that I directed him to go to bed and I would call.

January 9, 1927, his condition was very serious. Temperature 103.2°F ; pulse 108; very weak; intense pain through neck and head; entire back of neck swollen; pain and tenderness in both mastoid regions. Hot, one-percent solution of chlorazene was ordered continuously, night and day.

January 11, a general cellulitis existed, involving the entire area from the fifth cervical vertebra up to a line extending between the tips of the ears, and all of the occipital muscle, to its attachments. Pus came through hundreds of openings in the skin, resembling the contents of small collapsible tubes when pressed out. The entire area was extremely swollen. The frontal muscle was red and swollen and the patient was suffering intensely.

Laboratory Findings: Urine, negative; Wassermann test, negative; leukocyte count, 14,000.

Treatment: Continuously, from January

9 to March 1, 1927, hot, one-percent solutions of chlorazene were applied night and day. Morphine was given to control pain. Antistreptococcus serum was administered, in 1.5 cc. doses every second day, to six doses, beginning January 9. Full elimination from the bowels was maintained.

Diet: Four drams of whiskey every hour, through a tube, and some form of liquid nourishment every hour, to the amount of two to four tablespoonfuls, from Jan. 11 to 29. Only liquids could be given because



Fig. 1.—Showing Extent of the Lesion at its Height. (The skin was separated from the underlying tissues from the white line across the back of the head to the 5th cervical vertebra.)

movement of the masticating muscles was impossible.

The patient was kept in a sitting position, with his forehead resting on the padded back of a chair, from January 11 to March 15, 1927. He was confined to house from January 9 to May 15, 1927.

*Read before the Du Page County Hospital Society, Sept. 30, 1927.

In order that the severity of the case may be understood, it is necessary to go into details somewhat. The patient was seen twice daily for 49 consecutive days; dressings were changed and pus removed, to an average of four ounces per day, for 20 days, chlorazene, one-percent, hot solution being applied constantly.

After all broken-down tissue was removed, there were 59 square inches of an ugly, gaping wound. Skin grafting seemed inevitable. Again, a one-percent chlorazene dressing was used, cold, for three weeks.



Fig. 2.—End Result of Treatment Described.

Soon after this treatment was applied, the denuded area began to show a healthy, granulating surface and skin fibers were observed to be extending out from the margin of the wound toward the center.

Final Results: No skin grafting was necessary. The wound closed with very small evidence of cicatricial tissue. The date of final closing was August 30, 1927—a total duration of the carbuncle of eight months, 26 days. No deformity, stiffness or other abnormal effect remained.

A number of physicians became interested in this case, owing to its unusual character of infection. No like case was found to be reported, so far as the literature was searched.

I have employed chlorazene in many cases of sepsis and I have found that nothing produces the results which it gives. It can be used on open as well as closed surfaces with equally good results, and in my opinion there is nothing that can take its place, where wet compresses are indi-

cated, in any form of inflammation and infected wounds.

I have looked up the literature of chloramine (chlorazene) rather fully and I believe a list of the articles on this subject will be helpful.

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31 N. State St.

A Symposium on Bronchial Asthma*

Led by BURTON HASELTINE, M.D., F.A.C.S., Chicago

IN presenting our conception of the nature and cause of bronchial asthma to the Medical Round Table it is unnecessary to waste time in the usual introductory remarks. We are here because you already know that we are meeting the asthma problem more successfully than is done elsewhere and I assume that your interest is to know more in detail the reasons why this is true.

Preparatory to this meeting literature† has been sent to each member covering rather fully all phases of the subject. These articles are by various writers, each one peculiarly able to discuss his special work in its relation to asthma. Preeminent among these writers is Doctor James Adam, of Glasgow, Scotland, whose book on Asthma has been so highly complimented and so poorly followed, both in Europe and America. I am indebted to Doctors Kern and Hollender for my first knowledge of Doctor Adam's book, and since then it has been required reading for all who study asthma with me.

There is an astonishing parallel between Doctor Adam's work and our own, and if we have been able to carry it on to a further degree of completeness it is because he is playing a lone hand while we have an organization of experts, each of whom has made some personal contribution of great value. I believe, too, that the inadequate recognition of Doctor Adam's work abroad and the remarkable interest shown in ours here have both been important factors.

It will be understood from reading these papers that we begin the study of each asthma patient with the knowledge that there are two important factors in his case: First, a disturbed metabolism, toxic in

nature; second, a peripheral source of vagus irritation, probably in the gateway to the respiratory tract. Our problem, then, is to determine, as accurately as we may, the nature, extent and causes of these two factors. In some cases this is easy while others will severely tax the skill and patience of all concerned. Even the average case will demand some refinements of diagnostic study, both in the general and in the special field, in addition to those commonly taught and practiced.

The anamnesis is carefully studied and much valuable information thus obtained, but one point should be stressed in this connection: In the asthma history, as usually recorded, the greatest emphasis is placed upon the two items of heredity and specific sensitization. Neither of these has the slightest value to us in determining treatment nor is the prognosis materially affected by them. The heredity we obviously cannot treat. The sensitization and the whole allergy syndrome we have conclusively shown to have a toxic basis, and the allergy or sensitization disappears in direct proportion to the completeness with which detoxication can be accomplished.

One of the papers in the former symposium was on the urine in toxemia, by Doctor Clifford Mitchell, of Chicago. Doctor Mitchell's study of the urine in asthmatic patients has been an important factor in our success and he is present tonight by special invitation to discuss this subject. Also you will recall that the peculiar role of the endocrines was the subject of a paper by Doctor Maximilian Kern, in which the action of epinephrin in bronchospasm was explained, thus clearing up the last obscure point in the complex asthma syndrome.

It will add greatly to the interest of the general discussion if Doctor Mitchell will present his subject first.

*Presented before the Medical Round Table of Chicago, May 10, 1927.

†Special asthma number of *American Medicine* for June, 1925.

Discussion

Dr. Clifford Mitchell

To estimate the possible value of urine findings in diagnosis and prognosis, we should proceed from observation of the known to the consideration of the unknown. To illustrate: In the urine of post-scarlatinal nephritis we may find blood. We know that this blood comes from the kidneys. We study the appearance of the red blood corpuscles, under the microscope, and we find them differing from those known to come from the bladder or urethra. The appearance, then, of the red cells coming from the kidneys becomes familiar. Hence, if we find red blood corpuscles of this peculiar appearance occurring in the urine of diseases other than nephritis, we reason that these red cells must come from the kidneys and we make a diagnosis of blood from the kidneys in such cases.

In the diagnosis of toxemias we use chemical analysis, as well as microscopic, and take for our standard the urine of a person known to be toxic as, for example, a pregnant primipara in whose case the skilled obstetrician can readily recognize the toxic state. Qualitative and quantitative analysis of the urine of such a toxic woman shows us that the features, which differ from those in the urine of the same woman before she became pregnant and toxic, are likely to be some or all of the following: a rise in the acidity, a rise in the ammonia coefficient, an increase in the intensity of the indican reaction, and an increase in the reducing power. These features may or may not coexist with the appearance of albumin and acetones and the presence of casts, pus, or blood in the sediment.

Having thus made the observation of the changes in the urine of a known toxic case, we reason that, if some or all of these same changes occur in other cases, these must also be cases of toxemia of some sort. In asthma we find the rise in acidity, indican and reducing power are common urinary features and, we logically reason that the patient is toxic.

In order, however, to make our observations of any value we have found it absolutely necessary to insist upon a collection of the 24 hours' urine, (1) preserved by refrigeration; (2) undertaken while the patient refrains from drinking more than 1000 cc. of fluids in 24 hours; and we stipu-

late, (3) that, for several days before the collection, no drugs be administered which interfere with the various tests and determinations: as, for example, coal tar products, aspirin, alkalies (sodium bicarbonate, milk of magnesia), and alkaline waters. The urine, when examined, should be of specific gravity 1015 or higher, free from bacterial decomposition, and of normal odor.

Dr. A. R. Hollender

It seems strange that some observers are, as yet, not in accord with the fact that in order for asthma to exist there must be some peculiarity of the constitution which predisposes to this affection. What this predisposing peculiarity is, has been a subject of speculation, but the work of Adam and others has definitely demonstrated the fact that this peculiarity is nothing other than a toxic state. With this there must be simultaneously some pathologic condition in the nose, and also a hypersensitive condition of the nasal mucous membranes. The part of the external irritants—protein, pollens or what not—is of course, an important element in the excitation of these hypersensitive areas. While, in text, this agrees with Dr. Haseltine's views, I prefer the simpler explanation which I have given.

I should like to call attention to the so-called "Occupational Asthma." It is fairly well established that "Furriers' Asthma," for instance, is of common occurrence. My experience has taught me that when people engaged in the fur industry are asthmatics, a change of occupation will often produce permanent relief of their asthmatic symptoms. These patients get well, symptomatically at least, without a nasal operation and without detoxication. My explanation is simply that nature aids in the detoxifying process by the removal of the cause, although this process may take a considerably longer time than artificial detoxication. However, I am anxious to know what the essayist's explanation is in this regard.

I desire also to speak about polyp cases, inasmuch as the type of asthma produced indirectly by polyps was not mentioned. My contention is that polyp cases offer the poorest kind of a prognosis. I say this because I have heard Dr. Haseltine state, on a number of occasions, that he prefers to treat an asthmatic with polyps in the nose, because he can get his best results in this type of case.

I have been especially interested during the past few years in the type of asthma to which children are subject. These young individuals very rarely give urinary findings suggestive of toxemia—a point which was quite strongly emphasized this evening. Quite a few of these children have been cured of their asthma by the simplest kind of a method possible—simply the application of ultraviolet rays for their systemic or metabolic effect. A systemic course of treatment usually gives improvement in a very short period of time. The favorable reports in this connection appearing in foreign literature have been an inspiration in the carrying out of this work here.

I wish to say in closing that I am in strict accord with Dr. Haseltine, that practically all asthmatics are toxic. I do not believe, however, that this is the sole underlying and basic factor.

Dr. Maximilian Kern

The subject is so far-reaching that only a few phases could be considered in one evening. It was particularly interesting to hear of the results mentioned by some who have treated asthmatic children with ultraviolet rays with a great deal of success, while adults have not been relieved so readily with the same treatment.

To me this suggests an important point for consideration. A bronchospasm invariably is associated with a vagus irritation, which condition, to my mind, is co-existent with a lowering of adrenal secretion. This is evidenced by the fact that injection of epinephrin will palliate an asthmatic attack. In view of the fact that adrenal function has some direct relation to the function of the other glands of internal secretion, notably the parathyroids and the thyroid, ultraviolet irradiation, through its influence on calcium metabolism and the parathyroids, may have an effect on the function of the suprarenals, thereby lowering the irritability of the vagus and relieving bronchospasm. While this statement is purely theoretical, it has a logical basis and is worthy of consideration by our pediatricians.

Some mention was made of the relation of hysteria to asthmatic attacks. While hysteria can simulate almost any disease or symptom, it would be difficult to confuse the two if the proper examination were instituted. The embarrassed breathing noticed in asthma, as well as the disturbed chest excursion of inspiration and expira-

tion, alone would tend to show the difference. This much, however, must be taken into consideration; nervousness, anxiety, fright and, in fact, sudden excitement of any kind may bring on an attack. This observation can be easily correlated with the statement of the interrelation of adrenal function and vagus irritation already mentioned.

A rather unusual condition bringing about bronchospasms is observed occasionally in postoperative hernias where, on account of visceroptosis, a reflex condition arises which brings about asthmatic attacks.

Dr. Ralph H. Kuhns

I first became interested in the subject of asthma about ten years ago, while a member of the U. S. Army Medical Corps at Fort Sheridan, Illinois, where I met Dr. Haseltine and saw some of his work. While there I saw several remarkable results in this disease.

Since that time I have watched the efforts being exerted by the best-known allergy men in the country, including Drs. Cooke and Coca of New York, Dr. Chandler Walker of Boston, Dr. Duke of Kansas City, and Dr. Piness of Los Angeles. I have failed to see any satisfactory results in patients who have sought our aid following exhaustive treatment at the hands of these physicians. I am seeing excellent results now in the patients who are being handled in the manner outlined this evening by Dr. Haseltine.

It is, of course, no easy problem, and requires the team-work of several physicians, plus the cooperation of the patients and the families of the patients.

Our work includes a thorough history and complete physical examination, plus the exhaustive study of the urine and blood, as explained by Dr. Mitchell.

We perform no skin tests, nor do we drug the patients during the attacks of bronchospasm.

The anatomy is particularly interesting and was difficult for me to understand until I had studied it. If you will refer to the literature which has been sent to you, you also will be surprised at its simplicity, and the ease with which the phenomena of bronchospasm may be explained on the anatomic basis.

I may say that it is difficult, if not impossible, to carry out these methods of

treatment in the free clinic, because the number of patients there prevents the careful study and difficult and prolonged treatment which the asthma patient requires.

With regard to the use of the ultraviolet rays, delivered by the mercury quartz lamp, I am sure that this treatment is of great value in addition to all the other methods outlined, but I have never seen a patient in whom the quartz lamp effected a cure without any other treatment.

A. J. Pacini

The complete mechanism of allergy does not appear to be generally understood. It is true that the allergic state can be produced by the invasion of protein into an organism. It is also true that an allergic state can be produced by other than protein substances. There is, therefore, a common basis to the allergic state which has been found to reside particularly in the colloidal system of the blood. The allergic state seems to be an electric affair which results in the agglutination of protein particles in the plasma. This agglutination can be brought on by foreign protein injection, by the introduction of colloid suspensions of certain metals and by a variety of electromagnetic energies, as, for example, light, heat, ultraviolet rays and the like.

As the protein particles agglutinate, they leave the circulation and appear to collect in various anatomic areas. If they accumulate in the lymphatics and capillaries of the lungs, the allergy expresses itself with varieties of asphyxia as a predominant feature; if they accumulate in the splanchnic areas, cardiac failure of some form is the syndrome; and if they accumulate in the cephalic vessels, convulsions are manifested.

It will eventually be recognized that something more basic in the correction of allergic states is required than the so-called antigens. Antigens can probably be of benefit mainly in specific forms of protein sensitization. The basic principle consists in correcting the electric charge of the plasma which has undergone colloidal agglutination. Intensive exposure to ultraviolet radiation, according to our findings, has actually altered the colloidal system of the plasma, the alteration taking the direction such as would be required in dispelling an allergic state. In our clinic a number of asthmatics received exposures to intensive ultraviolet radiation, with uniformly grati-

fying relief of bronchospasm. I can therefore corroborate Dr. Kobak's observation on the improvement which he has observed in his clinic in the treatment of asthmatics with ultraviolet irradiation, particularly in the treatment of bronchospasm in children.

Dr. Haseltine's outstanding clinical contribution to the concept of asthma and hay fever, it seems to me, is the sensing of something more basic than simply protein sensitization as a pathogenic etiology in this condition; and his further clinical discovery that, apparently, a toxemia is invariably a link in etiologic correlation with the asthmatic syndrome. It seems to me that Dr. Haseltine's concept transcends isolated local manifestations and directs its attention to the basic physicochemical matrix of all pathology.

Doctor Haseltine (closing)

The very generous and instructive discussion seems to me to have resulted more from your study of the literature sent you than from my very sketchy introduction. I can only briefly discuss a few of the major points which have been raised.

Doctors Kobak, Pacini, Kern and Hollender are all perplexed that asthmatic children sometimes improve with light treatment alone while adults rarely do. There surely is no mystery about that. The same is true of every other partial form of treatment. The toxic state or metabolic disturbance is less profound in childhood, as is also the local disease. The child is, therefore, the easy patient for us and often responds to any measure that will improve his physiologic activity. We have also the special advantage that we remove food sensitization early in the treatment and thus have no nutritional handicap.

The cessation of bronchospasm following adenoidectomy, mentioned by one speaker, is a common experience. Our peculiar advantage is that we can determine beforehand whether this result is to be expected and we can see to it that the result, when obtained, is lasting instead of temporary. In this, too, there is no mystery. If the adenoid is of such nature that it maintains serious ethmoid blocking and its removal alone will restore the nose to normal, we predict a complete and lasting relief of bronchospasm following operation. If the ethmoiditis is of a type that will require further treatment, we know that permanent relief will not result until this

is given. By further treatment, however, I do not mean ethmoid or antrum surgery, for such procedures, in children, are unnecessary with the methods we employ.

Doctor Hollender's discussion is especially valuable, epitomizing as it does so tersely, the helplessness of the profession before this problem. Certainly, no one has read the mass of asthma literature more patiently than has he, nor more diligently striven to add something to our knowledge of the subject. It is indeed possible that this research spirit has been the cause of some lost motion, since, while agreeing, as he says, in text, with a simple, complete and demonstrated explanation, he still strives to find a different one.

He even tries to explain the fact that the fur asthma patient has no attack when the fur is removed, and he asks me for my explanation. The obvious answer is, there is nothing to explain. The only mystery here is that anyone can believe that a "detoxifying process" or any change whatever has taken place in this patient's metabolism. If Doctor Hollender really has this delusion he can quickly dispel it by again exposing the patient to the fur, or by so exposing any other patient who has been "cured" by this method.

His inability to obtain abnormal urinary findings in young patients illustrates my opening statement as to the inadequacy of ordinary diagnostic methods. Since hearing Doctor Mitchell you know that there probably is no asthma patient of any age in whom urine study, as made by him, will not show some departure from normal metabolism.

As illustrating the inadequacy of ordinary methods, Doctor Hollender's statement about polyp cases is most striking of all. He expresses surprise at my success in these conditions and asks me to discuss them, which with your indulgence, I will do in some detail: Doctor Hollender, of course, knows that polypoid disease (hyperplastic ethmoiditis) is the form of nasal pathology most frequently associated with bronchospasm. This has been common knowledge for many years. He knows, too, that the dramatic but too often temporary "cures" of asthma following nasal operation have usually been in polyp cases. He

may not know, for rhinology has sadly overlooked this fact, that the degree and permanency of the relief is directly dependent upon the degree and permanency of the eradication of the polyposis.

When you have digested this one enormous fact you will have little trouble in going the rest of the way: The more clearly we can connect a symptom with a localized disease, the more certain we are of relieving the symptom by correcting the pathologic condition. In nasal polyposis we have one direct, localized cause of bronchospasm. Doctor Hollender's failure in these cases is not because he does not know this fact but because he has failed to eradicate the polyposis.

We cannot here discuss rhinologic technique, nor the relation of nasal to general pathology, though both are pertinent in this connection. If, however, you will read again the literature that was sent you, you will understand how we obtain lasting results for these patients. One observation I would like you to keep constantly in mind: In treating asthma by the methods we advocate, no treatment, medical or surgical, is ever given any patient, which is not beneficial to him, regardless of its relation to the bronchospasm. This contrasts strongly with methods involving blind experimentation with measures that are so often futile and sometimes dangerous.

I wish to say again that we use no cocaine, morphine, nor any other drug of this nature, either locally or internally. The rhinologist who employs cocaine or adrenalin topically as a treatment, except for surgery, is confessing incompetency and doing a mischievous thing.

I wish especially to thank Doctor Pacini for his generous discussion. It is heartening to hear such expressions from one who speaks with his unquestioned authority. It is true, as he observes, that our concept is in perfect accord with biochemical knowledge because two facts cannot be in controversy. Doctor Pacini is in a position to know the futility of treating the asthma syndrome by vaccines and antigens and, as he well says, the success of our method results from finding and removing the basic cause.

122 S. Michigan Ave.

Hydrotherapy in General Practice

By G. K. ABBOTT, A.B., M.D., Takoma Park, Washington, D. C.

Medical Director, Washington Sanitarium and Hospital

A SOUTHERN practitioner was once scheduled to read a paper before a local medical society on the subject of "Hydrotherapy in the Treatment of Malaria." The chairman of the meeting introduced him thus, "Dr. Blank will now favor us with his paper on 'The Aquatic Treatment of Malaria.'" Evidently the water end of the title had made a deep impression upon the mind of the chairman. This rather amusing incident I mention that I may the more emphatically impress upon you the fact that water has very little more to do with so-called hydrotherapy than has the hypodermic syringe with a dose of morphine. The syringe is employed to administer morphine; likewise, water is employed chiefly to administer heat and cold to the human body. Heat and cold may be applied without the use of water; likewise morphine without a hypodermic syringe. However, hypodermic injection is doubtless, in most cases, the best means of administering morphine; and so also water, in perhaps the majority of cases, is the best and most convenient means of applying heat and cold. It is neither the syringe in the one case nor the water in the other that is the remedial agent. It is the morphine in the one and heat or cold in the other in which reside the *vis medicatrix*. The proper designation is therefore *thermotherapy*.

I do not in the least doubt that the misnomer, hydrotherapy, is, at least to some slight extent, responsible for our failure to employ more widely so valuable a therapeutic agent as heat and cold. On the other hand, the idea is almost universal that the administration of hydrotherapy requires complicated and expensive apparatus and is therefore not available for use by the general practitioner. We associate the term hydrotherapy with institutional practice in sanitariums or hospitals for the insane, or with hot springs, mineral waters and spas, and we have an indefinite and rather general impression that "baths" are good for neurasthenic and the maniacal patients. I mention this second fallacious idea that I may the more clearly convey to you my own personal opinion that thermo-

therapy belongs to the general practitioner; and not only that it is one of our most effective agents in general practice, but that its most beneficial results may be seen in general practice, and not as we have supposed in institutional work—and that with scarcely any apparatus at all.

Having spent seventeen years in institutional work and five in general practice, I do not at all hesitate to say that, from the standpoint of hydrotherapy alone, the latter interests me much more than the former. If you wish to study the scientific basis and rationale of thermotherapy, select the field of infections and infectious fevers, as seen in general practice. However, hydrotherapy is based more largely upon pathology and morbid physiology than upon bacteriology, as we shall see presently on considering a few of the more common infectious diseases met with in general practice. That I may not weary you with wandering back and forth over a very large subject I have selected for more detailed consideration the following diseases:

1.—Localized infections with pus organisms, and lymphangitis.

2.—Pneumonia: prophylaxis and treatment.

Pus Infections and Lymphangitis

These infections are those which the laity term "blood poisoning," and which, if neglected, are often the starting point of septicemia. My first introduction to these localized infections with pus organisms was as a medical student in a dispensary in the stockyards district of Chicago. I there became so impressed with the thermotherapeutic treatment of such conditions that I have not, to this day, ceased to regard it as of more importance than the surgical treatment, though this must by no means be neglected.

The thermotherapy employed in the case of pus infections of hand or forearm is carried out as follows: Secure two receptacles of such dimensions as to allow of the complete immersion of the hand, and the forearm if necessary. Fill one with the hottest water that can be borne and the other with ice water containing small

blocks of ice. Keep a teakettle of boiling water at hand so that the temperature of the hot water may be kept up to the limit of tolerance. Instruct the patient to immerse the infected hand in the hot water for two minutes and in the cold water for thirty seconds and again in the hot water and then in the cold, continuing these alternations for 20 to 30 minutes. Begin with the hot and finish with the cold. Dry without rubbing and use no massage. The treatment should be repeated from two to four times daily, depending upon the extent and severity of the infection. Whenever pus forms, lance according to surgical principles.

I think all will admit that the virulence of the organisms encountered among workmen in the stockyards is of a very high degree and the infection prone to spread most rapidly by synovial sheaths, tissue spaces and lymphatics. Under this method of thermotherapy the period of treatment and disability was cut to a minimum, often a few days to a week only, and the amount of surgery required was likewise very limited and the end results more highly satisfactory than I have ever seen under the most skilful surgery without the hot and cold immersion.

Since the introduction of Dakin's solution and dichloramine-T, I frequently combine the use of these with thermotherapy. In cases of lymphangitis, as indicated by red streaks up the arm or by swelling of regional lymph glands, push the thermotherapy to the limit; i.e., about four times daily, until the lymphangitis disappears.

Mechanism of Effects

After the first few hours of a local pus infection the pathologic state consists of a passive or venous congestion and swelling of the tissue spaces from accumulated blood and serum of lowered alkalinity. While the leukocyte count is at first sharply increased, the phagocytic response is inadequate to control the spread of the infective organism or even destroy it at the atrium. These conditions are met, *in toto*, by the alternating hot and cold immersions. First of all, the passive hyperemia is changed to an active, arterial hyperemia through the stimulated activity of the muscular coat of the blood vessel walls. The exuded and stagnant serum is picked up by the blood and lymph vessels, as has been shown by Starling in his monograph on the "Fluids of the Body." The relative acidosis of the

blood and serum is changed to an increased alkalinity. This has been demonstrated by Strasser and Kuthy in their researches into the effects of hydrotherapy upon the alkalinity of the blood. The local leukocyte count is doubled and trebled and the phagocytic response increased many fold; while with all this there is an increase in bactericidal antibodies, as shown by Graziani.

This method of thermostimulation is of course equally applicable to the foot and leg and may with equal benefit be applied to other parts by means of alternating hot and cold compresses or the alternate hot and cold pour or spray douche. The apparatus required can be found in any home or improvised from two five-gallon tin cans. Recently I have used this method in infections where I had lanced, curetted and sutured in drainage tubes through which to use Dakin's Solution. The combination is highly satisfactory from the standpoint of the length of the period of disability, the ultimate result and the comfort of the patient during the period of treatment.

Pneumonia Prevention

The prophylaxis and therapeutics of pneumonia have swung so far toward the side of bacteriology and immunology, and so far away from the standpoint of pathology and pathologic physiology, that I fear I shall fail to arouse any interest in the methods which I am using and which I wish to propose for your consideration.

Let us first consider the prophylaxis of acute, primary lobar pneumonia. From the time of the appearance of the first symptoms to the stage of exudation and consolidation, there is a definite interval of time, varying in length from a few hours to a day, although the definite physical findings indicative of consolidation may not appear until the second or even the third day. The abrupt onset, with chill, pain in the side, rapid respiration and high fever, brings the physician to the bedside early; and if the early signs of suppressed breath sounds or crepitant rales are also present, a diagnosis of beginning pneumonia may be made. It is only when taken thus early that primary lobar pneumonia can be aborted, and then only by very prompt and vigorous measures directed toward the immediate relief of the pulmonary congestion.

Details of Treatment

The following synopsis of a case record will serve to illustrate the measures adopted: A boy of thirteen was taken suddenly, late one afternoon, with a severe chill, lasting a half hour; sharp pain in the right side, increased by any effort at deeper breathing; temperature of 103°F., plus; respiration 42; pulse 120. Examination revealed suppressed breath sounds over the lower right lobe and a few fine rales; no friction, no bronchial breath sounds and no definite impairment of resonance was present.

Ten grains of Dover's powder were administered at once and followed as soon as possible by a hot foot bath, given in bed with the patient recumbent, and kept up to the limit of tolerance for about 15 minutes. After removal of the foot bath, the patient was turned so as to lie on the left side and very large and very hot fomentations were applied to the right chest, from the spine behind to the sternum in front, and from high under the arm, above, to the edge of the costal arch below. Each fomentation was at first hotter than could be borne without a thick turkish towel next the skin. As soon as the first fomentation was really comfortable another fomentation was prepared and applied immediately, after quickly drying the moisture occasioned by the first. This was kept up until five fomentations had been applied. Cold compresses were applied to the head and changed frequently. Before the last two fomentations were applied the patient was perspiring freely. The treatment was finished by a brisk friction with a bath mitt wrung from cold water and applied successively to the arms, chest, legs, and back. This was begun as soon as the fifth fomentation had been applied and this last fomentation was removed when the chest was reached with the cold friction.

The temperature after treatment was 102° plus and the respiration 26. The patient was free from pain and slept some time during the night. The temperature the next day reached almost 101° and on the third day was normal, except for a short time in the afternoon. The patient was out of bed on the fourth day, or rather at the end of about 65 hours from the onset of the chill.

Technically, of course, this is not the abortion of pneumonia, because the disease,

as such, does not exist until the second stage—the stage of consolidation—is reached. On the other hand, it is the abortion of a definite, severe and localized lung congestion and therefore, practically considered, it is pneumonia prevention.

When first working out this hydrotherapy technic for pneumonia I used a drug to induce sweating, such as Dover's powder or aspirin, about 10 grains of one or the other, given 20 minutes before treatment, with a hot drink such as lemonade, one glass, given just before treatment and another after it is started. However, I soon found that I could readily dispense with the soporific drug and was compelled to do so in some cases of idiosyncrasy and depend entirely upon the hot drink, the hot foot bath and the fomentations, all applied simultaneously. These means gave profuse sweating in all cases.

Many other cases with just as definite symptomatology might be recited. So much for the prevention of primary pneumonia.

Influenza, Colds and Bronchitis

Of still greater importance is the treatment of influenza, colds, acute bronchitis and other infectious fevers in a manner to prevent or overcome general or localized pulmonary congestions so as to prevent the occurrence of complicating secondary lobar and broncho-pneumonia. This may be accomplished by the routine use of hot foot baths or hot leg packs, accompanied by fomentations to the chest over the area of congestion or inflammation and concluded with the cold mitten friction. After one or two days, the revulsive or alternating hot and cold compresses to the chest are probably more efficacious, as they stimulate the circulation after the primary congestion has been relieved and so prevent a return of the condition by equalization of the blood current. The use of the cold friction acts in the same way and also enhances leukocytosis and phagocytosis and assists in the restoration of the normal alkalinity of the blood.

In certain cases of bronchitis in infants and children, especially with tendency to extension into the smaller tubes, causing capillary bronchitis, a treatment of peculiar efficiency is the warm bath of short duration, concluded by a cold pour to the back, shoulders and chest, just as the child is lifted from the warm water, or after it is raised to a sitting posture while still in the bath. I believe this is best used where

the temperature of the patient is only very moderately elevated.

In no case are ice bags or prolonged cold compresses to be used on the chest in the early stages of any pulmonary congestion. The principles involved in the abortion of congestion and in the prevention of the return of a congestion are: First, the securing of derivation by large and very hot applications to the feet and legs and over the affected area, with vigorous sweating; second, the securing or maintaining of this primary depletion by a brisk cold friction concluding the initial treatment; third, the preventing of a return of the congestion by such subsequent active stimulation of the surface circulation, by alternating hot and cold applications and cold frictions, as to entirely prevent retrostasis of blood.

These principles are so simple that they are constantly overlooked and the remedies so homely that they are devoid of mystery. But once these measures are used in an intelligent family they will thereafter become household remedies for colds, grippe, bronchitis, etc. In a very recent article on Spanish influenza, the treatment employed by a certain writer he designated as "expectant and symptomatic." I cannot refrain from paying my respects to such methods by saying I believe they are *lazy and impotent*, because they entirely overlook the existing pathologic condition and the disordered function, and fail to make any attempt to prevent the more serious complications of persistent bronchitis—pleurisy, broncho-pneumonia and empyema.

In late years we have become so absorbed in bacteriology and immunology and the treatment of infections from the standpoint of serums and vaccines, that we have overlooked the indications based on pathology and morbid function and the part the tissues play in bacterial resistance, and have consequently neglected the use of those remedial agents already in use and of proved worth. While so intent on chasing the microbe and searching for the appropriate serum or vaccine, let us not forget the *patient* and his tissues and the *vis medicatrix naturae*.

Pneumonia—Treatment

Passing from the prevention of pneumonia to its treatment, we should of course bear in mind that pneumonia, once established, is a self-limited infection; that the pneumonic process must run its course and

about all we can hope to accomplish by any form or combination of therapy is the prevention of serious trouble or a fatal issue. Marasmic infants and many old people will die in spite of all therapy. The heart and circulation bear the brunt of severe pneumonia. The mechanism of protection, as evidenced by a high leukocytosis, may fail. The patient may be overwhelmed by toxemia. These are the three chief dangers in pneumonia. Therefore the indications for treatment are:

1.—The sustaining of the vasomotors and circulation.

2.—Increasing leukocytosis and phagocytosis.

3.—Decreasing toxemia.

4.—Increasing aeration of the blood.

The classic researches of Romberg and Passler into the causes of circulatory failure in infectious fevers and in pneumonia in particular, are doubtless familiar to all. Without going into the details, suffice it to say that the results of their experimental work show that the circulatory failure is due to a toxic, vasomotor paresis and later paralysis; and that, as a result, the vascular factor in the maintenance of the circulation is progressively withdrawn, causing wide dilatation of the splanchnic vessels, particularly the veins, with consequent extreme venous engorgement of the splanchnic area. The heart, having less and less fluid upon which to work, increases its efforts to extreme rapidity, but with diminishing blood pressure and final failure from lack of circulating medium.

In massive pneumonia there is, at first, increased pressure on the right heart, with final dilatation of the right heart in fatal cases. Osler's comment upon this phase of pneumonia treatment is as follows: "Death is most frequently due to the action of the poisons on the vasomotor centers, with progressive lowering of the blood pressure. An all-important indication is to support the circulation. Hydrotherapy and keeping the patient out of doors are of great value for this."

The hydrotherapy which I use for the prevention and reduction of this toxic, vasomotor paralysis consists of fomentations and revulsive hot and cold compress to the chest and the cold mitten friction. I like to apply the cold friction once and the revulsive compress once a day. The hot foot bath or hot leg pack should be used once a day.

If the temperature reaches 104°F., the heating compress may be used in place of the revulsive compress, during that part of the day when the temperature is highest. The principle is much the same; the heating compress is, of course, a cold compress for the first few minutes, then, by the warming up process, becomes a heating application until changed, which should be every 15 to 30 minutes. This form of application is highly recommended by Osler, who changes it every hour.

Fomentations or the revulsive compress may be used one or more times during the after part of the night or in the forenoon if conditions require. If the pulse is very rapid or the right heart shows any signs of embarrassment, the ice bag should be used intermittently. For pain in the chest, the fomentation seems to give the greatest relief. I use no morphine. The fomentation to the upper chest greatly facilitates expectoration and eases the efforts of coughing.

These forms of hydrotherapy, together with the breathing of fresh cold air, meet the indications as outlined above. Toxemia is very greatly reduced, first by increased kidney elimination, and second and more important, by an increased oxidation of toxins, so that they are totally destroyed and the alkalinity of the blood maintained at a more nearly normal point.

To assist in these efforts, free water drinking should be made a routine. As has been shown so admirably by Rubner, tonic hydrotherapy—both heat and cold—increases oxygen absorption as much as 46 to

110 percent, and the CO₂ exhaled as much as 64 to 149 percent. This cannot fail to be of prime importance in the destruction of the toxic proteins of the pneumococcus, streptococcus and influenza bacillus infections, which Romberg and Passler have shown to be the cause of the vasomotor paralysis in infectious fevers. Besides this, the cold friction and the alternating hot and cold compresses stimulate the surface blood vessels directly and through the vasomotors reflexly—also all the internal vessels—keeping them active and in tone, thus preventing venous visceral engorgement.

In those cases where the leukocyte count remains high, the prognosis is better than with a low count. Defensive serum therapy may assist, especially in type II pneumococcus cases, but a high leukocyte count and a high phagocytic index may be maintained, in all cases of pneumococcus, streptococcus or influenzal pneumonia, by the judicious use of hydrotherapy. The latter is available to every general practitioner, while the former can be utilized only with the assistance of competent laboratory technicians, which help must be near at hand.

One observer has shown that in the cases with favorable outcome the phagocytic index reaches its highest stage just prior to the crisis, which observation cannot fail to prove that in the leukocyte itself resides the chief mechanism of protection. Hot and cold applications and cold frictions produce a definite leukocytic mobilization and enormously increase the leukocyte count.



Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M.D.

PERSONAL. It is with deep regret that I announce my resignation, for external reasons, from the editorial cabinet of *CLINICAL MEDICINE AND SURGERY*. For six years I have conducted the Surgical Seminar and I trust that my labor has not been in vain. In saying farewell to the readers I want to express my sincere appreciation to all who have encouraged my work by collaboration or by a word of appreciation. I desire also to express my gratitude to our scholarly managing editor, Colonel George Burt Lake, for much aid and encouragement.

Surgical Diagnostics (Concluded)

Coming now to the rectum, we find that above the sphincteric part, normally, the mucous membrane is folded longitudinally, interrupted by rugae which are not present as the instrument is brought down to the sphincteric part. Here the lumen of the bowel is no longer visible, for the opening of the instrument is entirely covered by the mucous membrane, which shows typical radiation of the folds. In a normal condition the mucous membrane appears rose-colored under full electric illumination.

In inflammatory conditions of the mucous membrane, examination reveals, not only a deeper red hue, but livid discoloration and the blood-vessels appear to be greatly enlarged. Erosions and fissures are encountered, especially as expressions of hemorrhoids.

While carcinoma and specific infections may produce in this region all sorts of excrescences, their interpretation may require additional diagnostic measures, especially to rule out syphilis and tuberculosis. The differentiation of tumor-like prominences from hemorrhoids is not difficult, if one recalls that most internal hemorrhoids are located in the middle of the sphincteric region, and that these little "tumors" are usually covered by intact mucous membrane, though, of course, hard fecal masses may have traumatized the membrane sufficiently to show superficial erosions. Fistulas are easily established—and are, in the majority of instances, tuberculous in character.

Finally, while the procto-sigmoidoscope is the instrument of choice in the hands of

an experienced examiner, it must not be forgotten that, so far as the rectum is concerned, any one of the well-known bivalve or cylindrical speculums may be used to good advantage, an ordinary reflected light sufficing for all purposes. Of course the former type should not be separated enough to cause pain. Those who have had limited experience with the procto-sigmoidoscope will doubtless do well to examine the rectum with both instruments for the purpose of comparing the findings.

Cystoscopy.—It need not be reiterated that cystoscopy, like esophagoscopy and bronchoscopy, is a method of examination which requires specialistic training. But it must also not be forgotten that there was no one to train the pioneers, who developed the method, so that each general surgeon, too, has a right to secure at least some manipulative skill before undertaking the easier journey of receiving personal instruction.

The actual use of a good cystoscope is not connected with any special difficulties, provided the ordinary care exercised in the introduction of metallic urethral sounds be observed. This means that the instrument must be sterile and well lubricated, that the bladder must be suitably prepared, and so on; but, after all, the introduction of the instrument into the bladder itself is scarcely more difficult than catheterization, especially when the caliber of the urethra is not unduly narrowed by strictures.

But the trouble begins after the instrument, which, by the way, must be studied as far as its make-up is concerned, with particular references to the optical apparatus, is lighted up to illuminate the bladder, which is usually filled with a clear indifferent solution, such as a 3-percent solution of boric acid in sterile water.

In the first place, most cystoscopes do not afford direct vision, such as one has in esophagoscopy, sigmoidoscopy, etc.; that is to say, the cystoscopic pictures are indirectly transmitted to the eye of the diagnostician. Accordingly it requires some practice to "translate" the picture seen into the real one.

The choice of an instrument, which is rather expensive as diagnostic instruments go, requires a good deal of thought. All sorts of instruments, while similar in principle, have been devised to overcome certain technical difficulties or to present certain advantages. Attempts to introduce all needed features in one instrument have not yet resulted in perfection, so that specialists prefer to have separate instruments for special purposes; e.g., retrograde cystoscopy, intravesical surgery, etc.

The beginner will do well to examine all sorts of models until he decides which is likely to be most useful to him. Certainly, some salesman in the larger surgical instrument shops will be able to point out the particular features of each type of instrument.

Finally, before actually using the instrument on a patient, one should practice with it on some improvised appliance. The writer spent many an hour with the following home made "manikin". A small bowl was partly filled with water and covered with a piece of dark paper. In the bowl were placed, at first, coins and later small pieces of meat. These were studied cystoscopically, and in that study one could readily see that the distance of the small lamp from the object has a decided influence on the color of the object, as well as on its shape and size. Moving the instrument closer to or farther from the object to be examined gave different results and these were compared with the actual appearance of the object. The same practice holds good in cystoscopy on the human being.

Before taking a course in cystoscopy every novice should examine as many normal bladders as he can get a hold of. It will be found that, in normal human beings, the mucous membrane of the bladder appears rose-colored; while in anemic patients the color is whitish-yellow, with variable color shadings to whitish-gray. Here, too, the shading depends on the proximity of the lamp. Prolonged observation will unfold to the observer the fine net of arterial vessels; while the veins will appear as trunks which disappear in the depth of the bladder wall.

Now one should study the bladder wall proper. It will be found that, at the symphysis and close to the prostate, the membrane is smooth, except in old persons, and the latter observation will be made

on the rest of the bladder; that is to say, the membrane is uneven. Repeated observations will enable the student to differentiate the trabeculae and other irregularities, as they are depicted in atlases, which, of course, should be consulted with great attention to detail as a sort of preliminary training.

After this the floor of the bladder should be studied with particular reference to the location of the ureteral openings, which can be located by turning the beak of the instrument in a downward direction either right or left, depending upon whether the left or right opening is to be identified.

Once one has mastered this comparatively simple technic there is no reason why abnormal bladders should not be studied. The interpretation of growths, foreign bodies and abnormalities of the bladder wall in general is a matter of a good deal of experience. How this experience is gained is of no particular importance. Some have the gift of recognizing the abnormalities of the bladder from a mere study of good atlases, others secure consultation in each case and thereby obtain teaching material, while still others will prefer to take a prolonged course.

Catheterization of the ureters is not so complicated as a novice may presuppose, for with a suitable instrument and the ability to locate the ureteral openings, the introduction of the ureteral catheters can be mastered by a little practice, especially if one have the ingenuity for preparing a suitable manikin for practice.

Catheterization of the ureters, together with functional study of the kidneys, is, of course, essential before operating on the kidney, no matter what the suspected condition may be.

The use of the Roentgen rays, too, represents a specialty, which cannot be taught in a brief review, such as this. It is one thing to look at the picture of a broken bone and quite another to interpret abnormalities of the brain, chest and abdomen. The difficulties are real ones, and only the man who is earnestly going through a prolonged course of training can hope to interpret plates with any degree of assurance that the resulting diagnosis will be correct. When it is recalled that many specialists have pronounced certain plates to show pyloric or gastric ulcer, and this statement was disproved with certainty by laparotomy, one can easily realize that the begin-

ner has a difficult job on his hands. Even the much heralded use of tetraiodophenolphthalein to demonstrate the gall-bladder is not guaranteed against errors. The practitioner in a small community, without hospital facilities, who is thrown on his own resources and who desires to use roentgenography, has, of course a perfect right to install a laboratory. What has just been said about cystoscopy applies to him in this respect too, but he has this advantage, that he can mail in his plates to some specialist in a nearby city to obtain verification of his interpretation.

In conclusion, it is pointed out that this subject has not been treated exhaustively, nor have all methods even been enumerated, but when it is considered that the original aim was to point out the diagnostic methods commonly in use in surgical diseases, it is hoped that enough has been said to indicate the right way in which to pursue detailed study.

Discussion and Solution of Error No. 1 (See October issue, p. 776)

Recapitulation.—A comparatively young woman, after lifting a heavy burden, suddenly experienced sharp pains in the right inguinal region. This was followed by vomiting lasting for four days. At that time the vomitus had a fecal odor.

Examination at a hospital showed a pear-shaped hernia with plain signs of incarceration. Taxis proving impossible, herniotomy was performed. The sac contained a loop of bowel one inch in length, which contained gas and fecal matter. The site of incarceration permitted the passage of a thick probe with great difficulty. Division of the incarcerating ring freed the bowel, when a dark-brown discoloration was found at the site of constriction. Gangrene was ruled out with certainty, justifying reposition. After the technically well performed operation the patient passed some flatus and felt easier. Four hours later fecal vomiting began again, and death occurred two days after operation.

The requirement called for the determination of an error, and if such a one was committed, to describe it.

Discussion by Dr. Otto B. Pavlin, Chicago, Ill.

I believe there was an error, and this in spite of the fact that some flatus was passed after the operation, for the recurrence of the fecal vomiting is, to me, con-

clusive evidence that a toxic ileus existed.

Possibly a high jejunostomy might not have saved the patient's life, but it certainly was indicated. If this operation had been performed, according to the technic recently described by Macrae, it would not have materially increased the risk and certainly would have aided in preventing additional toxic absorption.

Discussion by Dr. Chas. E. B. Flagg, San Antonio, Texas

There was evidently an error, as can be seen from the fatal termination. While it is easy and perhaps ungracious to criticize other people's work, I, nevertheless, would have considered it an error not to have drained the gut above the constriction. A glass tube inserted through a small incision certainly would have removed from the intestine much of its acrid contents. The technic presents no difficulty, for the drainage tube can be held in place as long as needed by invaginating the bowel on it by a simple pursestring suture. But this treatment, too, is not to be freed from criticism, since in the event of a fatal termination, I would still have blamed myself for not having searched for further pathologic changes, through a sufficiently large abdominal wound.

In connection with this problem I recall a case of hernia for which an emergency operation was performed by Dr. John A. Wyeth, in which the autopsy revealed a perforating ulcer of the bladder, which was entirely unsuspected.

Discussion by Dr. Edmund D. Levisohn, Chicago, Ill.

I believe there was an error in this case. The signs of impacted hernia were present when the young woman was taken to the hospital, and waiting four days after taxis had failed is, in itself, an error, especially in the presence of continuous, unexplained vomiting which became fecal.

I also feel that, because of the apparently insignificant pathologic finding at operation, opening of the abdomen and search for paralytic ileus, volvulus or infarction of the mesentery was indicated, especially so since any of these conditions is a frequent complication in impacted hernia, particularly in one with the symptomatology as given in the problem.

Solution

It will be recalled that, in the original presentation of this problem, in the October

issue, we invited attention to the fact that this case happened in a hospital of the highest possible character and that the staff was all that one could desire. Under these circumstances, whatever criticisms have been presented are impersonal in character, the idea being to derive some lesson from whatever error was committed. "*Errare humanum est*", is an old saying, and there are errors of omission as well as of commission, which in themselves are not condemnatory of the responsible surgeon.

Dr. Levisohn has either not read the problem correctly or else it was not clearly presented, but the problem itself begins with the fourth day of the trouble when the patient was first seen at the hospital. It was there that taxis was first performed, so far as we know, and that failing, herniotomy was resorted to, which is just precisely what Dr. Levisohn and all others would do under similar circumstances.

I was very much interested in what Dr. Pavlin had to propose. I do not know the doctor personally, but I hope to meet him, for he betrays sound surgical judgment. However, we are not so much concerned in the errors committed in the postoperative care—the patient's condition warranted another operation, but perhaps it could not be carried out on account of legal obstacles, consent for example—as with whatever error was committed at the operation, and that certainly was one of omission.

Personally, I was particularly glad to publish this problem because, on a similar occasion, I was severely criticised by a few bystanders for my "bold method" of adding a laparotomy to the herniotomy. Yet this was the proper thing to do, for, as Dr. Flagg has pointed out in Wyeth's case, the unexpected may be present. Dr. Levisohn is right when he points out that in the disproportion of the phenomena to the actual pathologic changes encountered in the sac, he would have become suspicious of additional trouble.

I think I can do no better than briefly to report the autopsy findings in this particular case, as a note of warning:

The autopsy revealed that there was a second incarceration of a hernia of the intestinal wall in the right, inner, inguinal ring.

Had the herniotomy been a hernio-laparotomy, this second incarceration, which could not be suspected either by the history of the case or by the examination, would have

been discovered, and the patient, in all probability, would have recovered. Even though it be granted that such a case is extremely rare, the surgeon must think of every possibility, for, after all, those most interested are only too quick to condemn us without reason, and, as we have seen, certain self-satisfied surgeons can draw a valuable lesson from just such experiences as the one presented.

Discussion and Solution of Problem No. 9

(*Editorial Note.*—In view of the fact that this is the last issue of the Seminar conducted by me, it is gratifying that sufficient contributions have come in to enable me to bring the work of the year to a conclusion. At the last minute Dr. Robertson sent also his final observation on the case. Contributions which will reach me after this day—November 10th—will be turned over to the managing editor for his disposal).

(*Recapitulation.*—Dr. Robertson is the author of the problem which appeared in the last November issue on page 856. As the author gave a rather full description of the case, the readers are requested to read the original.

Discussion by Dr. B. B. Parker,
Allerton, Iowa

The first thing that strikes the eye is the lack of detailed information, for certainly the report on a Widal test, blood count and urinary analysis would have rendered the problem a less difficult one. It also seems to me that the pregnancy and puerperium have no bearing, though low grade infection of the right adnexa is possible. Bimanual examination should have cleared this up.

The absence of a rise of temperature, up to September 12, speaks against puerperal infection, though, of course some daily elevation of temperature may have escaped notice. The patient's complaint of weakness would indicate that some "hangover" interfered with progress. On September 9, or 10, the disturbance was due to trouble in the abdomen and not to dietary indiscretion. The purgative given September 12 aggravated the condition, as is seen by the mass discovered September 16. Bimanual examination would have settled the question of parametritis and localization of the mass in the cecal region.

My diagnosis is abdominal abscess, due to perforation of the appendix, walled off by local peritonitis, with the resulting inflammatory mass causing partial obstruction of the intestine. The differential diagnosis concerns: right-sided pelvic inflammation, tuberculosis, typhoid fever and fecal impaction.

If I am to present any criticisms at all I would suggest that the patient should have been thoroughly examined August 27. No purgative should have been administered, and on September 16 a Widal test and blood count were in order.

September 16 was the date on which abdominal section was decidedly indicated, for a history of "indigestion", extending over six years, certainly speaks for appendiceal trouble.

**Discussion by Dr. E. C. Junger,
Soldier, Iowa**

Briefly, this problem appeals to me as a case of chronic colitis, aggravated by constipation and cathartics, with a strong suspicion of tuberculous involvement of the cecum. Possibly the sigmoid, too, is involved. Certainly this is a case in which cathartics were not indicated, while everything speaks for the need of abdominal exploration.

**Discussion by Dr. F. N. Richardson,
Cleveland, Ohio**

If time and space permitted, the testimony presented by physician and patient could be rearranged in the form of a regular court trial.

Witness.—"Though we live in a small town with a water supply, wells and cisterns are still being used".

Lawyer.—"Objection."

Judge.—"State your objection."

Lawyer.—"Immaterial testimony for conviction."

Judge.—"Objection sustained."

Witness now presents obstetric testimony. Again objection is raised and sustained, because the defendant is playing on the sympathies of the jurors.

Testimony of September 10 shows that the husband was cautioned that epidemic diarrhea and typhoid were running amuck. Objection, on account of hearsay evidence.

Testimony of final examination shows temperature 101°F., pulse 114, chest negative; something to give the jury, but not enough to convict on the charge of an epidemic.

Suggest that a non-suit be filed and a new trial ordered, this time charging the patient with peritonitis.

**Discussion by Dr. William G. Parker,
Mt. Vernon, Ill.**

Sifting the history offered, we secure these essentials: A young woman normally delivered 39 days before onset of the

present trouble; a history of attacks of indigestion extending over six years, each attack followed by soreness in the abdominal flanks; the patient ate watermelon followed by a mild diarrhea for two days; an enema to relieve her usual constipation caused cramping in the pit of the stomach; a purgative resulted in nausea, cramping and vomiting; four days later she had a temperature of 101°F., pulse 114, rigidity of the right rectus, a "mass" in the abdomen and some general abdominal tenderness. Patient is ambulatory; gurgling in cecal region; two days later, patient takes to bed with temperature of 102° and pulse 120. An enema results in seven bowel movements.

Only two conditions are at all likely to produce such a condition: either suppurative appendicitis (abscess) or typhoid fever.

Without wishing to take up space with an enumeration and discussion of the cardinal symptoms of appendicitis, some of which may be absent when needed to positively establish a diagnosis, it must be pointed out that pain is one of the most constant symptoms in acute appendicitis. The patient, in addition, has had not only most of the cardinal symptoms but also a history of otherwise unexplainable attacks. On the other hand, the "mass" must be interpreted with caution, since even a moderate abdominal abscess may be masked by muscular rigidity. Finally, it must be borne in mind that when an abscess becomes localized the symptoms often abate and the patient may be up and about.

While it is true that typhoid fever may have symptoms of fever, diarrhea, gurgling in the cecal region, etc., it is unusual to find the other symptoms mentioned in the problem, and in the absence of any data, such as laboratory tests, pointing unmistakably to typhoid infection, the entire clinical picture is one of appendiceal abscess, following a number of preceding mild attacks of appendicitis.

The administration of purgatives is bad practice unless appendicitis can be ruled out with finality.

**Solution by Dr. M. O. Robertson,
Bedford, Ind.**

I was puzzled from the very beginning with reference to whether this was a case of appendicitis or not. To begin with, one would expect a patient with appendicitis to be bedridden and to suffer from constipation. Here we have an ambulant patient

with diarrhea. There should have been tenderness in the ileocecal region and a rise of temperature. The presence of two cases of typhoid fever in town made me cautious. However, after admitting the uncertainty to members of the family I urged operation, which was done. We found an appendiceal abscess, walled off by the colon. There was a medium-sized cavity, filled with pus. Following drainage, there was fecal odor, suggesting the possibility of a fecal fistula, but under appropriate treatment the wound healed kindly in four weeks.

The case, of course, was not typical, but the previous attacks justified a tentative diagnosis of appendicitis. Finally, I must add that purgatives had been given but not reported to me until after the operation. While I may be criticized for delaying the operation somewhat, the delay did no harm and if anything afforded the patient the opportunity to have the abscess walled off.

I had a case of "dysentery" last summer and, as the symptoms did not subside on the usual treatment, there was a cry raised to operate. It was gratifying to me that, when a surgeon was called in consultation, my position was sustained. The present case had many similar points. It is all a matter of exact diagnosis and operative skill and dexterity, but there arise conditions when one's decision must be made only after thorough investigation and critical analysis. The one under discussion was just such a case, and, I trust, points out some of the difficulties encountered in actual practice.

Editorial Comment

Before laying down the pen which was wielded in the interest of the Surgical Seminar I desire to express my utmost gratification at the discussion of this interesting problem. I told Dr. Lake when I first received it that just such "doubtful" or "borderline" cases are the very ones to arouse interest, and so it proved. I wish you all a fruitful and contented New Year!

Surgical Problem No. 1 (1928)

Presented by Dr. W. G. Parker,
Mt. Vernon, Illinois

When this patient was first seen she had been under the care of another physician for several months. Because of circumstances which every man in general practice encounters, the patient was not seen

so often as was desirable, and many points in the record are missing. Many laboratory tests were impossible to secure, as the patient could not be moved from her home, or the family could not be induced to have such work done.

The patient was a large, fleshy German woman, aged 72. About four months before she was seen by me, on November 8, 1924, she suffered from an acute gastric upset, characterized by vomiting and diarrhea. This was attributed to eating green beans. She had suffered from bleeding hemorrhoids for several years. For the past few weeks she had had a rather constant digestive trouble with vomiting spells, occurring at seemingly irregular times. She also had a chronic constipation.

Her chief complaint at this time was inability to hold food in the stomach or to eat ordinary diet. She had been vomiting for the past few days, immediately after eating. She had been having some fever for perhaps a few weeks, and now had a temperature of 100° F. and pulse rate 88 in the afternoon. Blood pressure, 170 systolic, 100 diastolic. The urine contained a trace of albumen. She was given an alkaline digestive-laxative powder and became better in a few days, so far as the stomach was concerned, but there was indefinite distress in the lower part of the abdomen.

November 25th.—My notes show that she was not looking so well; was drowsy; had pain in the pelvic region; was eating very little. The afternoon temperature was 101°. Because of the region of the pain, a bimanual examination was made. The cervix was normal, the uterus enlarged and fixed in the pelvis.

November 26th.—A proctoscope was passed, disclosing internal hemorrhoids. After passing about five to six inches the instrument was blocked and could not be passed farther. The morning temperature was 99°.

December 1st.—The patient was reported to be feeling more comfortable; the urine was said to have a very strong odor. Examination disclosed a turbid, acid urine with many urates and an odor suggestive of feces. Bowels constipated. Appetite poor. Morning temperature 99°, pulse 96. Patient is very nervous and sleeps but little.

December 18th.—Urine reported to be very foul and an attendant is certain there is fecal matter in it.

(Concluded on p. 949.)

Clinical Notes and Practical Suggestions

Headache: From the Standpoint of the Syphilologist

HHEADACHE, in syphilis, is usually not of sufficient importance as a symptom, to the average physician, to merit the consideration it deserves. It is true that, in the early stages of lues, it really is of no great importance, but it must be considered of great importance in tertiary syphilis when it especially attacks the central nervous system.

In the first stage of lues, there usually is no headache present at all, except perhaps in the case of the negro who complains of headache more than the average white syphilitic. But, inasmuch as this type of negro is not of particularly high mentality nor is he the acme of truthfulness, this complaint is without sufficient foundation to make it a necessarily standard symptom in the primary stage.

In the second stage, very frequently, accompanying the cutaneous lesions and mucous patches, together with the frequent febrile disturbances and sore throat, there is a severe headache, in which the principal pain is, as a rule, in the frontal part of the head, although this is not necessarily so, it also often involving the temporal regions. This headache is however, inconstant, and occurs only in those cases where the secondary stage is ushered in with constitutional disturbances.

It is in the tertiary stage, especially where the central nervous system is involved, either through destruction of posterior horn cells, or of the cerebellum or other part of the brain, or through the presence of a gumma acting as a brain tumor, that we find headache to be a symptom of considerable importance. In cerebral syphilis, the headache is, as a rule, more severe at night, this being, perhaps, more peculiar to this type of brain disease than to any other.

In tabes dorsalis headache may or may not be present. Changes in the vessel walls, particularly those of the basilar artery, or a gummatous meningitis starting in the region of the chiasm, very frequently give headache as the first symptom of their presence. This may consist at first, and even for years, only of a fullness of the entire head, to become eventually a severe headache of prolonged duration and great intensity. It must be noted that this headache may be present months or years before any other symptom is observed.

An aneurism of the basilar artery may also give rise to this type of headache. Exacerbations occur, at the same hour, nightly, this being a characteristic of the luetic headache. The pain is most severe at these times, being almost unbearable, and at times even requiring morphine for its control. Between these exacerbations, however, the pain can be more easily controlled, without resorting to narcotics. The pain is diffuse and seems to be situated deep within the skull. Behan says that he has found that sometimes the pain has a circumscribed border, if the process reaches the convexity, and that in these cases, a circumscribed percussion sensibility may also be present.

In syphilitic hemiplegia, headache is always present, as it is in non-luetic cases. This headache is of the same type in both instances, and disappears as its cause goes.

In the case of gumma of the brain, the area pressed upon in the brain by this tumor gives, of course, a headache in the region dominated. If the gumma affects any cranial nerve it can give pain in any part of the head which has to do with the nerve involved. A gummatous meningitis also usually causes a headache involving the entire head rather than any particular portion of it.

In the treatment of syphilitic headache, we come to the cardinal principle of treating its cause. And that, of course, consists of the ordinary treatment of the lues with the arsenicals, iodides, bismuth, and mercury, together with (in the severer cord and brain conditions) the malaria treatment of syphilis. For the attacks which come on acutely, there is nothing but symptomatic treatment, with the usual analgesics (the coal-tar derivatives), and in the extreme cases, morphine or any other alkaloid of opium.

JACOB SPITZ, M.D.,

Boston, Mass.

(Syphilologist, Middlesex Hosp.)

MODERN URINE ANALYSIS

Every one knows that Lake Michigan water contains "lime" dissolved in it. Every one should also know that urine contains (dissolved or suspended in it) certain more or less deleterious materials removed from the blood by the kidneys. Modern urine analysis, chemical and microscopic, ascertains not only the quality but also the quantity of these materials; hence adds to our information as to what is going on in the body and helps detect *forerunners of disease* as well as disease itself.

Modern urine analysis demonstrates errors in diet, disturbances of digestion, faults of nutrition, and presence of toxemia (as in pregnancy or in focal infections), even though unsuspected; hence renders valuable service in *preventive medicine* as well as in diagnosis and therapeutics.

Sufficient information cannot, as a rule, be obtained from the examination of the urine of a single voiding. The urine of 24 hours is required, to be collected with certain precautions, as described elsewhere See (CLIN. MED. & SURG., June, 1927—p. 449).

CLIFFORD MITCHELL, M.D.

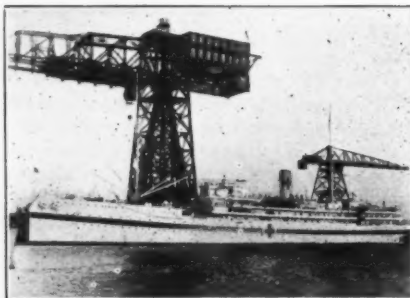
Chicago, Ill.

CHLORAMINE IN THE U. S. NAVY

The great battleships of our fleet have large and well stocked pharmacies, but the submarines and destroyers, where every cubic foot of space counts, must choose their medical supplies with care and make one drug serve as many purposes as possible.

The use of chloramine in the Navy (the readily soluble tablets known as "Chlora-

zene" are generally employed) goes back only a few years, but in that time it has gained recognition as one of the most powerful and versatile antiseptics on the list. I have even known pharmacist's mates, when the supply on their ship was exhausted, to buy this drug out of their personal funds, because they felt unwilling to be without it.



U.S.S. "Relief"—Hospital Ship Lying in Dock.

One of the greatest dangers on a battleship is from burns, the result of the enemy's fire or of accidents. Powder burns seem to be definitely poisonous. Chloramine seems to counteract this poison, in some way, while disinfecting the wounds at the same time. If the lesions are then dressed with butesin picrate ointment or powder, almost all of these burned seamen recover very comfortably.

In our Navy abundant opportunities are offered for research work, both afloat and ashore. The naval hospitals in our tropical possessions handle many interesting cases, and here, as well as on the battleships and in the Navy Yard dispensaries, chloramine has proved its value repeatedly.

One use of this drug which, I believe, is not widely appreciated is its employment, in the form of a nasal spray and gargle, for the prevention of acute, infectious diseases. It is used for this purpose on at least 20 of the destroyers of the battle and scouting fleets and minimizes the number of "colds" and similar affections which occur during transitions from hot to cold regions and vice versa.

During the presence of a division of naval vessels in San Francisco recently, there was a mild epidemic of influenza in that city. When the first case appeared among the Naval personnel, the medical officers began spraying all throats with chloramine solution, with the result that

no more cases occurred on shipboard or in the navy yard at Mare Island.

On the Navy hospital ship, "Relief," whenever a man reports with infectious conditions of the nose and throat he is given a spray and gargle of chloramine solution.

Veader Leonard has bewailed the fact that the use of the term, chemotherapy, has been restricted to the treatment of specific general infections by the use of chemicals, generally injected. Of course, chloramine is not adapted to such uses as that, but it is one of the most efficient and generally useful antiseptic and germicidal preparations now available for external application.

G. K. SPENCER,

San Francisco, Cal.

EPILATION WITH THALLIUM ACETATE IN TINEA TONSURANS

The epilatory effect of thallium acetate was accidentally discovered in France where the drug had been used as a substitute for lead in the treatment of diarrhea. It is now being used in all the European skin hospitals in the treatment of tinea of the scalp; not because it has any effect on the disease itself, but on account of the fact that it causes almost complete, temporary epilation of the scalp, and thus renders the field of infection amenable to local treatment.

Thallium acetate is a powerful poison and must be given with the greatest care as to dosage. Up to the present time the only contraindication to its use is the presence of nephritis.

The drug is administered in a single dose, by mouth (occasionally, it has been tried hypodermically with equally good effect), in doses of from 8.5 to 9 milligrams per kilo of body weight. For instance, if a child weighed 54 pounds, this would be approximately 24.5 kilos. Nine milligrams per kilo would make 220.5 milligrams (0.22 Gm. or about 3½ grains) as the dose.

The solution is made in water and the child is instructed to drink it carefully so as to secure the entire amount.

Twelve to fourteen days after the drug has been given, the hair begins to come out freely, and this is assisted by pulling it out with the hands. The scalp then appears bald, except for the part affected by the tinea, where short stumps remain, and these can easily be removed with epilator

forceps. A fringe of hair remains around the lower part of the scalp, and the eyebrows are not affected.

It is important to notify the parents that the patient may complain of pains in the legs about the 7th to the 12th day after the thallium is taken, and that all that is required is that the child remain in bed for a day or two.

Having succeeded in removing the hair, the tinea patch is treated with an ointment of salicylic and benzoic acids* or by rubbing in, twice daily, an ointment composed of equal parts of sodium chloride and petrolatum. As soon as the unction can be made without causing irritation of the scalp, its use can be discontinued. The hair grows again quite normally.

Failures have been few in number (about two in thirty cases) and this may have been due to deterioration in the quality of thallium acetate used.

If success does not follow the first dose of thallium, a second dose is not given for a period of three months. Salicylic and benzoic ointment is used in the meantime.

The x-ray treatment of tinea of the scalp has been disastrous in many clinics, a considerable percentage of patients developing permanent alopecia. The thallium treatment comes as a boon to those physicians who dislike to submit their patients to the risk of a permanent epilation.

R. STEWART MACARTHUR, M.D., C.M.,
Los Angeles, Calif.

CARDIAC PAIN

One of the most disquieting symptoms that anyone can experience is cardiac pain. It may be the forerunner of disastrous consequences—or it may not. In either event the psychoneurotic reaction is naturally quite the same. Not until a thorough diagnostic study reveals that the significance of the symptom is not as serious as was first thought does the individual feel at all encouraged.

The frequency with which cardiac pain is encountered in the past few years has aroused the curiosity of clinicians concerning its true significance. In addition, one outstanding feature of the study of medicine today is the much greater attention paid to symptoms than to the physical

*Ung. Ac. Salicylicæ, et Benzoiçæ.

R	Ac. Salicylicæ,	gr. XX (1.3)
	Ac. Benzoiçæ,	gr. XX (1.3)
	Olei Coconucis	3ii (8.0)
	Paraffinum Mollæ	ad ꝑ (30.0)

signs of diseases. In the latter part of the nineteenth century it was the physical signs of heart disease which occupied the minds of the profession, and the aim was to correlate the physical signs with the gross pathologic changes present. This attitude dominated clinical investigation. Now, with the swing of the pendulum, the cross-examination of a patient is often considered even more important than the physical examination, and both are made with the object of obtaining a clear conception of the functioning power of the organ at fault, whether that organ be the heart, the kidneys, the pancreas, the liver or any other. For an organ may be gravely inadequate and yet present few, if any, objective signs of disease. Then it must be remembered that symptoms are the earliest manifestations of disease more often than are physical signs. There is some subjective deviation from the normal, such as discomfort, pain, exhaustion or lassitude. The elucidation of the meaning of such deviations from the normal and their prognostic significance was the aim underlying all the work of the late eminent heart authority, Sir James Mackenzie. He, more than any other man, excepting possibly Osler, focused the attention of the world of medicine on the subjective aspect of disease.

Cardiac pain may be very important or it may be negligible. The difficulty lies in properly interpreting it. Gordon, who recently studied bacterial toxemia as a cause of cardiac pain, believes that the study has suffered from the existing nomenclature and suggests that, for purposes of investigation, cardiac pain of all types be simply called "cardiac pain" just as abdominal pain is called "abdominal pain."

A very careful review of the literature fails to reveal a better classification of cardiac pain from an etiologic standpoint than the one suggested by White and Wood who group it as follows:

- 1.—Simple fatigue pain of either ventricle or of both.
- 2.—"Irritable heart" pain.
- 3.—Paroxysmal heart pain.
- 4.—Pain of coronary thrombosis.
- 5.—Aortic pain.
- 6.—Pain of pericarditis.

As will be seen, this separation according to etiology is more helpful than separation according to position or severity.

1.—*Simple Fatigue Pain*: Every individual unaccustomed to hard physical work experiences a certain amount of pain in the muscles after exercise that is more severe than that to which he is accustomed. Any muscle, when it becomes exhausted beyond its usual limit of effort, tends to become painful, so muscle fatigue can well be considered responsible for a large number of cardiac pains.

It is improbable, of course, that this would be a frequent factor in early life, but beyond the age of 40, when the muscles become more flaccid, it is more likely to be a cause, even though there be no pathologic changes in the heart muscle. If the heart is hypertrophied as a result of chronic hypertension, aortic regurgitation or stenosis or an arterial pericarditis, it will, of course, be more likely to occur.

Fatigue cardiac pain may also be the result of the added effort to a paroxysmal tachycardia or paroxysmal auricular fibrillation. Consequently, if the cause of such conditions can be elicited and corrected, it is sometimes amazing how easily and quickly the cardiac pain disappears. In such conditions a therapeutic test with digitalis is frequently very valuable when a diagnosis is doubtful. The digitalis should be administered without changing, in other ways, the method of life of the patient during the test. In suggesting this test White and Wood remind us that nitroglycerin is without effect, so by the comparison of the effects of the two drugs, digitalis and nitroglycerin, a differentiation can be made between simple fatigue pain and the paroxysmal pain of angina pectoris.

2.—*Nervous Heart Pain*: During the war, heart pain as the result of effort syndrome was quite commonly encountered, and the so-called neurocirculatory-asthenia came into existence.

The personal equation and individual reaction to pain cannot be disregarded among nervous and high-strung individuals who generally exaggerate the importance of slight pain. White and Wood quote Mackenzie as follows to illustrate this point:

"The majority of these cases are highly-strung, nervous people, and especially women. They have frequently been exposed to some strain, mental or physical, and their cardiac symptoms may be but a part of the menopause, or when the patient

is subject to some other complaint, as intestinal stasis or poisoning from some microbic infection. I have watched such individuals for over twenty years."

The ordinary fatigue pain—and that of the nervous heart—varies much in intensity. It has been described by different authors and individuals who have experienced it as being of a dull, aching character. Very occasionally it may become severe, sharp and stabbing. It may be beneath the sternum or anywhere in the region of the heart. It may radiate straight through to the back and at times be felt beneath the scapula, to the left shoulder or axilla, down the left arm to the finger tips, up the sternocleidomastoid muscle and even the entire left side of the body, including the left leg all the way to the toes. Speaking of it as a dull ache that can be easily borne, aside from the apathy which naturally accompanies it, probably best describes it.

Not infrequently, pressure on the surface will reveal the fact that a tenderness exists superficially. For this reason, if a patient complains of cardiac pain, we should first ascertain whether the pain is really located in the heart or in the chest wall. A careful study of the nerve supply of the chest will show the multitude of possible reflexes. Any inflammation of the brachial plexus can refer pain to the cardiac region and give the impression of a true angina. Hence, a neuritis may be the responsible factor in causing some of the precordial pains that have seemed so obscure in etiology.

It can also be borne in mind that a fatigue pain is exaggerated by exertion while the nervous pain is usually out of proportion to an effort. Rest and digitalis relieve and diminish the likelihood of fatigue pain while reassurance and nerve sedatives act best in the nervous heart pain.

3.—*Paroxysmal Heart Pain*: Paroxysmal heart pain may be brought on in susceptible hearts in older individuals, by any stimulus, whether it is exertion, excitement, cold air, food in the stomach, flatulence, excessive coffee drinking, inordinate use of tobacco and, when more severe, may occur even when the individual is perfectly quiet, without any exciting factor. In this particular type of pain it is difficult, if not impossible, to rule out what is ordinarily understood as angina pectoris.

Ordinarily, angina pectoris comes on quite suddenly, and the cardiac pain is quite severe. It may last only one or two minutes or it may last longer. The patient usually stops instantly, if walking, and is apparently paralyzed. He is conscious of a sense of oppression or constriction which may reach a high grade of intensity, even a condition of intolerable anguish. He is afraid to move even as much as a little finger; there is a sense of impending death and an anguish of mind accompanied by varying vasomotor disorders such as cold sweats and a deathly pallor.

Angina usually occurs in the fifth or sixth decade of life and is supposed to be chiefly a syndrome of city life. Men are usually more susceptible, particularly those whose occupations cause stress, strain, anxiety, worry and great responsibility. It is probably for this reason that doctors seem to head the list in occupational statistics.

4.—*Pain of Coronary Thrombosis*: The rapid blocking of a large coronary vessel, almost a sclerosed artery, is accompanied by long-continued heart pain of a very severe nature, not relieved by rest, digitalis or nitrites, and requires repeated doses of morphine to relieve it. Other than this, there is very little to distinguish it from the previously mentioned classifications.

5.—*Aortic Pain*: This type of pain is usually associated with aortitis or an aneurysm and is generally syphilitic in origin. There is a fairly characteristic dull ache which may also become sharp in character and radiating, but it is not paroxysmal. It does not respond to digitalis or nitroglycerin and frequently is quite promptly relieved by antisyphilitic treatment. A blood Wassermann test, electrocardiogram, roentgenologic studies and careful auscultation, as a rule, reveal the cause of this pain.

6.—The pains of pericarditis can also be recognized after careful diagnostic study.

It will be seen then that the pains included in the first three classifications are the ones that are the most difficult to differentiate.

Before reaching a conclusion in connection with any cardiac pain, however, it is hardly necessary to emphasize the importance of a complete diagnostic study. This should be complete in every detail and should include a diligent search for foci of infection in the sinuses, tonsils, teeth, gall-

bladder and gastrointestinal tract. In view of the fact that hypochlorhydria frequently exists as an etiologic factor, complete gastric juice study should be made. Roentgenologic study of the heart and an electrocardiogram should be included, for obvious reasons. A complete blood picture, urinalysis, and blood Wassermann test should be made. In addition, the general physical examination should be most careful. While it is true that the findings may occasionally be negative, a careful examination of this sort will, as a rule, reveal at least a contributing cause, for example, a hitherto unsuspected abscessed tooth.

R. A. STRONG,

(Abstracted from *International Medical Digest*.)

THE PROTEINS AND MINERALS IN MILK

Milk contains four proteins, of which two are present in considerable amounts. The curd of milk, which contains all its casein and part of its lactalbumin, has been found to be most valuable for building or renewing body tissues. There is no other animal protein of known value procurable at so low a price as the proteins in milk. Grains, legumes and nuts do afford efficient proteins, more so than those of tubers and other vegetables; but, in general, plant proteins are not so valuable as animal proteins for tissue building and should not be relied on solely as a source of body-building protein.

Of all the minerals necessary for the growth of the child from conception to adult development, none is of greater importance to all parts of the body than the calcium and phosphorus salts, because these are the essential building materials for bone, which is largely calcium phosphate. Since growth is measured by the development of the skeleton and since the child must have a steady, abundant supply of calcium, as well as of certain vitamins, to build bones and teeth, body organs and fluids, milk should be included in every child's diet during the entire period of growth. "There are but two classes of calcium-rich foods—milk of animals and the leaves of plants." Of all food sources of calcium, milk and cottage cheese are the cheapest, most easily available, and most abundant. Milk also provides other impor-

tant minerals such as phosphorus and potassium.

When it is realized that 1 quart of milk will furnish as much calcium as 10 large oranges, 10 large helpings of spinach, 24 large helpings of carrots, 32 eggs, or 20 pounds of beef the value of milk for growing children can be appreciated.

Unfortunately, cow's milk is low in iron content, probably even as compared with human milk, and this important mineral must be supplied by other foods. In spite of the fact that the form of iron in milk seems especially favorable for assimilation, the prolonged exclusive use of milk after early infancy tends to produce anemia due to lack of iron in the food. It is generally stated that the infant has considerable iron stored in the liver at birth, which enables it during the period of breast feeding to thrive on a food as low in iron as human milk. Iron can best be introduced in the diet through the use in early infancy of fruit juices, green leafy vegetables, and egg yolk, and later of whole cereals, beef, and potatoes.

DOROTHY R. MENDENHALL, M.D.,
Madison, Wis.

PROBLEMS IN PSYCHIATRY*

At the present time about 42 percent of all hospital beds in use in this country are occupied by neuropsychiatric patients—and there are only 3,000 neuropsychiatrists in the United States!

There is a tendency for mental patients to shun the psychiatrist until the case is hopeless. They are willing to search diligently for *physical* causes of their symptoms but are extremely unwilling to admit the presence of mental disease.

Patients should be educated to the point where they will seek mental treatment voluntarily, instead of waiting until it is forced upon them by the slow machinery of commitment to a public institution.

The public institutions should care only for the indigent insane, leaving the well-to-do mental patients to private institutions. Insanity is not allied to crime—it is a disease—and there is no more reason why the State should care for wealthy mental patients than for other types of sick people.

*Abstract of Chairman's address before the Section on Nervous and Mental Diseases of the A.M.A., Washington, D. C., May 18, 1927.

Hospitals should be open to all reputable psychiatrists, with expenses kept separate from doctors' fees.

A hospital is the best place for a patient with a true psychosis, but it is the worst place in the world for a psychoneurotic patient—as bad as a saloon for a Keely Cure graduate.

WILLIAM HOUSE, M.D.

Portland, Ore.

ACCURATE INTRANASAL MEDICATION

I am pleased to report to you a short description of a glass nasal insufflator which I devised about three years ago. It has been so useful to me that you may be interested in passing it along to others.



The instrument is very simple, as shown in the drawing. It is all glass, 7 mm. in diameter and 10½ cm. long, tapered at the tip and flared at the inlet, with a goose-neck shape in the middle to hold medication and permit the instrument to be held at the desired angle for directing the spray. In the middle of the goose-neck portion, and on top, a depression is made for the purpose of narrowing the lumen so that one or two drops of liquid may form a meniscus.*

The principal purpose of the instrument is to permit insufflation of a definite amount of any solution, used intranasally. I have used it for insufflating cocaine solution—usually from 1 to 4 percent—for shrinking or partially desensitizing the mucous membrane. One to three drops is ideal for epinephrin, ephedrine, and silver nitrate. It is a quick and economic method of application. For such solutions as neosilvol or argyrol, I use 10 to 15 drops.

Either a hand bulb or the regular air-cock tip is suitable for forcing out the contents. The glass may be made to fit the individual tip of any compressed air machine by making an impression with dental wax and sending it to the glass manufac-

*May be procured from Steele Glass Co., 622 Locust St., Philadelphia.

turer. Any worker in glass can make it. The device is not patented.

WARD C. ALDEN,

Chicago, Ill.

[There has been a distinct need for some method whereby small and accurately measured quantities of various medicaments could be applied to the interior of the nose. None of the measures ordinarily in use accomplish such a purpose, but Dr. Alden's simple little device appears to solve the problem so satisfactorily that one wonders why it was not discovered before. —Ed.]

BABY'S DAILY TIME CARD (Nineteen Months to Two Years)

The "runabout" between a year and a half and two years needs as careful attention and as regular a routine as does the young baby. Here is a good schedule for this active period:

7:00 a. m.	Wash and dress. Brush teeth.
7:30	Breakfast: Cooked cereal; coddled, soft-boiled, or poached egg; crisp bacon occasionally; boiled whole milk.
8:00	Play.
8:45	Plain cod-liver oil, then half an orange.
9:00	Bath.
9:30	Out of doors till dinner. Sun bath and long nap in sun.
12:00 noon	Dinner: Fresh green vegetables; potatoes, rice, or macaroni; meat or fish; stewed fruit or simple pudding; boiled whole milk.
1:30 p. m.	Out of doors as long as season permits, in sun except on very hot days.
3:30	Boiled whole milk. Play.
5:00	Undress for night. Wash.
5:15	Plain cod-liver oil, then half an orange.
5:30	Supper: Cereal; milk-vegetable soup; milk toast or dry toast; junket, baked custard, or stewed fruits; boiled whole milk. Brush teeth.
6:30	Bed, lights out, windows open.

Diet

Do not give fried food; greasy foods, such as "made gravy"; the less easily digested foods, such as cucumbers, pickles, pork, veal; nor sweets, such as pie, cake; fancy cookies, candy, ice cream. Leave these for later years. A child will not cry for a food that he has never tasted. Do not give the child tastes of food just to see whether he likes it.

Offer the child boiled water, not sweetened, at least twice a day—oftener in summer.

Training

During this period give up the child's afternoon nap. He should have a morning nap every day until he is old enough to go to school. Keep on putting him to bed at 6 o'clock.

Give three regular meals a day. Let the child feed himself.

Give the child the right sort of playthings, and he will learn to play by himself, indoors or outdoors. Give him a sandbox to dig in and a wheelbarrow or a small cart to push. Let him have playmates of his own age sometimes.

Teach the child to help in dressing and undressing himself.

At this age the child should ask to go to the toilet.

Let the child play in the sun.

CHILDREN'S BUREAU,
U. S. Dept. of Labor.

DANGER TO INFANTS FROM COAL GAS

In reading Dr. Stine's clinical note "An Unexplained Death" (CLIN. MED. AND SURG., Oct., 1927, p. 781), I am reminded of another healthy infant who died on the fourth day, the apparent cause of whose death may be suggestive in connection with Dr. Stine's case.

At the time of delivery the mother had had a rather profuse postpartum hemorrhage which weakened her considerably, but the baby seemed entirely well.

On the fourth day of the puerperium—a windy morning in March—I called and, after examining the mother, I went into the front room, where the baby was in its crib, to see my other patient. There was a fireplace in the room, in which a coal fire was smoldering, "to take the chill off".

When I looked at the baby I was horri-

fied to find that it had ceased to breathe; and while I was considering how to tell the mother what had happened, a gust of wind blew down the chimney and filled the room with the choking fumes of coal gas.

I sent for the father, and while I was explaining matters to him, the room was again flooded with gas, almost sufficient to suffocate us two adult persons. The cause of the baby's death seemed reasonably sure to both of us.

It is my firm conviction that infants and young children should not be permitted to sleep in a room heated by an open coal fire or by a coal stove, unless the latter is positively *known* to be free from leaks. Even an adult is in some danger under such conditions.

A. W. BLEIL, M.D.,

Kansas City, Mo.

[Dr. Stine did not tell us at what time of year his experience occurred, so we cannot be sure whether or not this report has any bearing upon the conditions. In any case, Dr. Bleil has made an interesting observation which should be helpful to many practitioners in rural districts.

We shall be glad to receive further comments on this or any other cases reported in this department.—ED.]

WHAT A CHILD SHOULD DEMAND OF HIS DOCTOR

A child has a right to demand of his doctor that he be well-born, that he be ushered into the world with efficiency, dispatch and consideration for his safety and that of his mother. It means that his mother shall have been, for a number of months preceding his debut, under the watchful eye of a physician.

That his doctor instruct his mother in the essentials of dietetics when his first nine months of eating have been provided for. These essentials concern his daily food intake.

That at the end of the first year of life he shall have been protected from the three diseases which it has become unnecessary for any child to have;—namely, diphtheria, smallpox and typhoid fever.

That he be guarded against the hazards that make up the "school diseases," such as eye-strain, bad posture, fatigue, nervousness, malnutrition, and the hundred and one defects of the modern American

child that accompany the school as it is so often administered by those who view the child as plastic material to be fitted to the school.

That his emotional life be safeguarded. This safeguarding in many cases will come only when a wise and sympathetic doctor has taught young parents just what are some of the dangers that may come in the train of neglect of their child's emotional life.—From "Children, The Magazine for Parents."

EXTRAGENITAL SYPHILITIC SORES

In a report of a case of syphilis treated at Jefferson Hospital, Philadelphia, the history contained some points of great interest.

Patient a male, age 23. Was engaged to marry. When the girl was introduced to his family, his mother noticed that her hair was falling, that her body had a peculiar odor and that there was an eruption on her neck and shoulder, which the girl declared to be eczema. The patient admitted that the girl had bitten and sucked his lower lip.

Examination.—Sublingual glands much enlarged and painful (buboes); typical chancre on middle of lower lip; macular rash on back and front of chest, Wassermann test, 4 plus.

I, personally, have seen a number of cases of labial and tonsillar chancres, with buboes in the sublingual and submaxillary glands. Four of these cases were traced to one infected prostitute, with whom the men had been indulging in lingual kissing. Venereal prophylaxis of the mouth is difficult.

GEO. B. LAKE, M.D.,

Chicago, Ill.

SURGICAL SEMINAR

(Concluded from p. 940.)

December 22.—Bladder symptoms severe, with frequency and tenesmus. Microscopic examination reveals much fecal matter in

the urine. The bladder was irrigated with permanganate solution.

December 29th.—Bladder again irrigated. Less fecal matter but much tenesmus. Patient failing in strength. A mass can be felt above the pubes. Because the patient was very fleshy, the contour of the mass was not definitely made out, but it seemed hard.

December 31st.—The patient is sluggish and sleepy. Bladder irrigation causes some pain but lessens fecal matter for a few days. There is no fever today.

January 13, 1925.—Reported to be passing fecal matter through the bladder. The bladder is less sensitive to this than previously. The bowels move infrequently.

January 26th.—Reported to have been doing well for past two weeks, but today she had a chill and temperature of 102°F. at 6 P. M.

February 15th.—Patient has a severe pain in the left leg and thigh. She is cold and appears to be dying. Given morphine and strychnine hypodermically.

February 16th.—Patient died at 7 A.M.

Editorial Note.—It is with deep and sincere regret that we see Dr. Blech sever his connection with the Seminar. Our editorial relations have been most cordial and delightful and we are sure he has given much help to our readers.

The Seminar will be continued, perhaps with some changes in its make up, but, we feel sure, with profit to all concerned.

Problem No. 1, of the series of 1928, is submitted, and discussions are to be sent to the Editor, CLINICAL MEDICINE AND SURGERY, 14th St. and Sheridan Road, North Chicago, Ill.

We hope that all who have participated in the work of the Seminar in the past will continue to do so, and that new participants may be added, so that the work may have the highest possible value.

The Leisure Hour

The Art of Nicholas Roerich

GRADUALLY the power of color is unfolding itself to humanity. Medicine has made color one of its allies, thereby conceding its mission in the human plan. Psychologists have recognized its impelling effect on human emotion, and the force of its vibrations, falling athwart human existence, becomes more and more evident.

To the artist this knowledge is intuitive. and has been with the genius, from time immemorial, for the artist senses the pulse of life with a psychic power not given to the common run of mankind. Art, as history has shown, often presages events, and the artist is often a prophet. Therefore with him this scientific knowledge is instinct.

As one of the greatest artists of our time, Nicholas Roerich has transmitted and is transmitting the message of beauty to this era as few others have done; and he has done this through the complete synthesis of his art—its harmonious line, its color, its design, its inner symbolism. All these have crystallized themselves into one of the most impelling messages in cultural history.

It is to the color aspect of his work that we would especially confine ourselves here, for in this Roerich's work allies itself to science and becomes a matter of essential guidance, as it were, to those to whom the study of man's spiritual reactions are so essential.

This master, since the very beginning of his art, revealed his remarkable feeling and knowledge of color and utilized it. With that inner vision, with which the artist seems endowed, he brought color into his paintings as an ally of his spiritual ideal, and utilized it to transmit his message. There is a positivism in his colors which signifies that, though Roerich utilizes them entirely naturally, he possesses great scientific knowledge of their application.

In each of Roerich's paintings one is enveloped in a dominant mood—from out the painting one feels an atmosphere which

irradiates therefrom and enfolds the onlooker. And, allied with his dominant emotion, one finds a dominant color mood which is the garment of its vibrations and the medium of its mood.

Art is ever in advance of science—it gives the conclusion which science eventually checks up, through painstaking and detailed measures. But the road of intuition and spirit is the faster way, and undoubtedly science will, in the future, be able to find out why meditation, joy, exultation, are evoked upon the sight of great masterpieces.



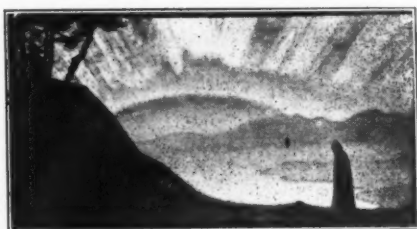
Dream of the Orient.

Roerich has generally bathed his paintings in a sea of one color, and he seems to have covered the gamut of human sentiment, and sensed the instinctive feelings of man since early history. Studying a few of Roerich's works coloristically, we begin to learn the fascination of his art, and we feel some life-giving quality—some healing power—which emanates from them.

Full of this coloristic suggestion is the painting "Dream of the Orient", which is dominantly yellow. We see the great expanse of heaven's architrave, with sparse brown trees dramatically set in relief. Against the sky one discerns the face of a giant. This, then, is the dreamer of the orient—asleep, but in a slumber not visionless. When shall that dreamer awaken? In this painting one feels that the very

color plays a role of great significance. One feels in it the yellow of the dawning sky, of the East, or of the robes of lamas. One feels a yellow as of the domes of Kublai Khan or of the banners of Timur.

Yellow is said to be the color of the mind. Behind this painting is cogitation. Behind this sleeping giant, is a greater profound vision. When shall the dreamer awaken? Is he determining upon this? It is a painting which rouses one to speculation.



The Bridge of Glory.

In complete contrast, coloristically, is "The Bridge of Glory", completed in America. Here is a painting in the blue of night—a night of revelation. Roerich painted this in Maine. This is significant, in that Roerich's spirit seemed to feel in America the fulfillment of the age-old heritages of the world. The scene thus has its importance.

But gazing at the picture one forgets locale—it is a setting of all the world, for the painting has its cosmic conception. Night envelops the earth. The sky vibrates with a divine blue, and the rocks and land beneath are deeper, as though the veils of blue were enwrapped more heavily over the soil. Above the horizon, amidst the night of sapphires, the bridge of glory—the aurora—spreads its wings. It is of blue and silver, intermingling, glimmering in iridescent splendor. In the foreground stands a figure—Saint Sergius, he whom Russia has named the righteous. He stands gazing upon the bridge of glory as though entranced, recognizing in it the symbol of that bridge of beauty of common brotherhood which must connect earth and heaven.

Blue is the dominating color in many of Roerich's Himalayan paintings—the last which he has finished and which have been only recently sent back in their entirety to the Roerich Museum in New York. In this series, which comprises some 150 paintings

of the 600 in the Museum, one feels that the apotheosis of color has been attained. Here color has become resplendent; the whole spectrum of light irradiates with a compelling and unforgettable beauty.

Thus in his final series, "Banners of the East", Roerich has achieved the unprecedented, in painting the series of all the great Teachers of the world. Each painting is flooded in a single predominant tone, as though this were a very part of the teacher's own aura. And through this Roerich conveys a complete and impelling mood.

From the coloristic standpoint, in these Himalayan paintings, all have their measure of glory, but one is especially startling—"rDorje the Daring," the Tibetan teacher whom Roerich includes in his "Banners of the East". The painting is in a flaming red, and it is impossible to remember any other painter who has dared such color.



rDorje the Daring.

Here is veritable writing in flame; it seems as though earth had suddenly opened and from its inner fires has arisen the Thunder God, Mahakala himself. A great image garbed in mountainous flames casts its fiery reflection on the world; thunder and flame dominate the earth. "rDorje", the small figure of the lama, is seated in the foreground, at the left, with his prayer wheel. He sits fearless, facing even this awesome diety which his mantram has summoned forth. He, as the conqueror of self, has conquered the world and can calmly face Mahakala. In this victory over self, one discerns the glorification of that power of complete self-annihilation which can conquer the ego to attain a cosmos.

Throughout all his works, one sees in Roerich this dominating color mood, this vibrating quality which seems to become a reality and which enthralls, not only the

vision but the heart and spirit of all who behold them.

Modern science is now folding back the curtain of the beyond. What was yesterday elusive to our minds, becomes today explicable and we begin to feel that man is a lute over which play the vibrations of the world. As man becomes more and more attuned to the harmonies of the cosmos, so much more does the instrument of spirit vibrate in sympathy to the cosmic chords around him.

Hence is the miracle of art become more and more a reality to us. We begin to learn what true magic and knowledge is in the heart of the world's geniuses. If artists throughout the ages have held the spirit of men in thrall, it is because the artist, by the nature of his genius, knew the secrets of color as the expression of spirit. The artist, unconsciously even to himself, is centuries before his time.

That majestic force of color which Roerich proclaims and which he sees as a great healing force of humanity, in his art accomplishes this mission and evokes humanity to new vision—to new outlooks into an eternal and cosmic beyond.

—SERGE WHITMAN,

New York, N. Y.

Doctors who neglect to push those who owe them money should see a moral in that one about Sam, the colored man, who was asked to "drop a little change for the Lord" in the tambourine held out by the Salvation Army Nell.

Sam owed everybody in town, and when he refused to contribute, the Salvation lassie reminded him, "You owe it to the Lord."

"Yes'm," said Sam, "I know it. But He ain't pushing me like the rest!"

NERO MEN

You probably don't remember much about Nero. If you do you can recall no good having been said of him.

Nero was the man who fiddled while Rome burned. And he wasn't even a good fiddler!

A certain amount of contemplation is necessary to intelligent action. But once your decision is made, stop fiddling, take a toe-hold on topsy-turvy conditions and help land them right side up with care.

One thing is certain and that is that if you consider too much you will never have much to do *but* consider. Be sure you are doing what folks will endorse after it is finished rather than worry about their endorsement of your unfinished business.

Of course, Nero was bad clear through, but at the burning of Rome they didn't want men who were good but men who were good for something. It was lack of recruits for the bucket brigade that doomed the city.

Find your place in the bucket line. The burning of Rome is old stuff, but there are still plenty of burning questions at hand, and still too many Neroses and too few Heroes. Get in line, lend a hand, *do something*.

—CHESTER H. STRUBLE,

In November *Nautilus*.

Mehitabel Mary Ann Cholmondely

Was a maid neither clever nor colmondely;
She was not quick nor neat,
She had corns on her feet,
And she did her work sourly and dolmondely.

FIFTY-FIFTY!

An enterprising tradesman sent a doctor a box of cigars which had not been ordered, with a bill for six dollars. The accompanying letter stated, "I have ventured to send these on my own initiative, being convinced that you will appreciate their exquisite flavor."

In due course, the doctor replied: "You have not asked me for a consultation, but I venture to send you three prescriptions, being convinced that you will derive therefrom as much benefit as I shall derive from your cigars. As my charge for prescriptions is two dollars, this makes us even."

R. & C.

Diagnostic Pointers

SURGICAL DIAGNOSTIC ERRORS

In some 10,000 operations performed at the New York Hospital there were 268 errors in diagnosis. Sixty-two cases diagnosed as appendicitis were found to be other abdominal conditions. In 39 cases, otherwise preoperatively diagnosed, appendicitis was found at operation, one-third having been diagnosed as gall-bladder disease. The diagnosis of salpingitis was wrong in 22 cases; and in 11 cases the diagnosis of extra-uterine pregnancy was wrong.—DRS. GREGORY AND VOSBURGH, in *Ann. Surg.*, Oct., 1926.

FAT IN MEN AND WOMEN

The normal protection for a man's nerves, blood vessels and abdominal organs is muscular tissue; woman's natural protection for the same structures is largely adipose tissue. No man has any right to be really fat; No woman has any right to be really thin.—DR. LEONARD WILLIAMS, in "Obesity".

INSOMNIA AND INDIGESTION

I have made so bold as to reduce insomnia, which is not caused by some such disturbance of the central nervous system as pain or worry, to a mathematical equation, namely, insomnia = indigestion.—DR. LEONARD WILLIAMS, in "Obesity".

CARDIAC LESIONS

Any condition which changes the position of the heart and the axis of the blood flow will cause a systolic murmur.

Percussion is of no value in diagnosing slight mitral lesions. A blindfolded man will get weird results.

The orthodiagram, made under the x-ray, is the only reliable way to determine minor changes in the size and position of the heart.—DR. S. S. BERGER, of Cleveland, O.

GALACTOSE TEST IN ICTERUS

By administering galactose, in tea, to fasting patients, and testing the blood-sugar content before and after, patients with positive galactosuria (except those with cirrhosis and ascites) will show dis-

tinct water retention after the galactose test meal; those with negative galactosuria (including those with Hanot's cirrhosis) will excrete the full amount of water or more.

This is a useful aid in the differential diagnosis of mechanical and catarrhal icterus.—DRS. L. ELEK AND A. OPPENHEIMER, in *Wien. klin. Wchnschr.*, Feb. 24, 1927.

MATERNAL SYPHILIS AND CONGENITAL INFECTION

From 60 to 70 percent of women with positive Wassermann tests will give birth to apparently normal and healthy babies; but women with active, recent syphilis must be thoroughly treated, from early in pregnancy to delivery, if the child is to escape infection.—DR. DAVID L. BELDING, in *Am. J. of Syph.*, Jan., 1927.

PHOSPHATURIA

Phosphates are precipitated in the urine as salts of magnesium and calcium, and never as the salts of sodium and potassium. It is the relative excess of magnesium and calcium which is to blame in phosphaturia and not the excess of phosphoric acid. Sodium acid phosphate is a good remedy in phosphaturia.—*Urol. & Cutan. Rev.*

SEROLOGIC DIAGNOSIS OF CANCER

Many of the methods suggested for the diagnosis of cancer by examinations of the blood are entirely empirical and many give false positive and false negative reactions. A reliable serologic test for cancer remains still to be found.—*Internat. Med. Digest.*, May, 1927.

RED CELL COUNTS

The erythrocyte count may vary, at various hours of the day, and without any obvious cause, as much as 345,000 in men and 310,000 in women. Variations from normal of a quarter million cells per cubic mm. are, therefore, of little significance.—*Current Comment, J.A.M.A.*, August 6, 1927.

Current Medical Literature

TREATMENT OF GONORRHEA IN THE FEMALE WITH ACRIFLAVINE

Until some effective and safe method of systemic therapy for gonorrhea has been discovered we have to rely upon local treatment.

According to Dr. David Watson, of Glasgow, Scotland, in *Urol. and Cutan. Rev.*, April, 1927, the best local gonococcicide is the dye acriflavine.

Penetration into the depths of the mucosa and into gland ducts constitutes the main difficulty in the local treatment of gonorrhea in the female; and the gonococci in glands are particularly difficult to overcome, as here they are more or less sheltered both from natural immunity forces and from surface applications of antiseptics.

Antiseptics used for the treatment of gonorrhea should be unirritating to the tissues, penetrative and rapidly gonococcicidal. In Watson's opinion, the antiseptic which most thoroughly fulfills these conditions is acriflavine. As now prepared this dye is soluble in 1 in 20 of water and in 1 in 3 of glycerine. Its penetrating properties are self-evident owing to its staining properties.

The results of exposing a tube of gonococcus medium to the action of acriflavine is that it is converted into a medium on which gonococci cannot grow. The same effect is produced on a mucous membrane, this being of great importance since it can be maintained by repeated applications.

Acriflavine, in a strength of 1 in 70,000, kills the gonococcus in one minute. The female urethra will stand 1 in 1,000 for injection and 1 in 200 for probe application without irritation. These percentages are in accord with Watson's unvarying experience that the greater the quantity of antiseptic used the less must be its concentration.

The following is the routine at the Glasgow Lock Hospital: After a prolonged hot sitz bath containing 1 ounce of creolin, the vagina is thoroughly swabbed with lactic acid. Then a small pessary of Bulgarian bacilli in lactose is inserted against the cervix. This procedure is carried out twice daily during the first few days until the discharge is controlled and the field clean; then, once daily. The pessaries are made from a 48-hour culture of *Bulgaricus* bacilli grown at 42°C. in a medium of sterile whey, plus 3 percent lactose. This culture is mixed with lactose powder until a thick paste results from which the pessaries are punched out and allowed to dry aseptically. The majority of cases will clear up under this treatment.

But for the cases in which gonococci persist in the discharges the acriflavine treatment is indicated. This is accomplished by means of a syringe with a lachrymal duct needle, injecting the ducts with a few drops of 1:2000 acriflavine solution in physiologic saline. Reddened glandular areas can also be painted with 1:100 acriflavine in 10 parts glycerine and 90 of water. Skene's ducts are best treated by inserting a wool-wrapped probe dipped in 1:200 acriflavine.

For gonococcal cystitis the bladder should be washed out, using 1:4,000 acriflavine in physiologic saline.

For deep infection of the cervical glands, wool-wrapped probes dipped in 1:500 acriflavine are used.

EPILEPSY, FASTING AND KETOSIS

An editorial in the *J.A.M.A.* for May 21, 1927, calls attention to the fact that favorable results, in cases of epilepsy, have resulted from prolonged fasting. This treatment could, of course, be carried out only for limited periods.

The most important chemical change in the body produced by fasting is the accumulation of aceto-acetic acid, betaoxybutyric acid and acetone—a ketosis similar to that frequently seen in diabetes. A true acidosis seems also to result.

A series of studies at the Massachusetts General Hospital seems to indicate that, by feeding a diet high in fats and low in carbohydrates and proteins, ketonuria can be maintained over long periods, and that this method offers the greatest promise of improvement of any remedy recommended for the treatment of epilepsy in children.

WHIPWORM PARASITES

The whipworm is a common intestinal parasite of man, and Dr. Clarence W. Lieb, in *Am. J. M. Sc.*, April, 1926, says insufficient attention has been paid to it. The ordinary methods of parasite eradication by anthelmintics fail.

Lieb begins treatment with 2 ounces of castor oil, placing the patient on a low-residue diet. Then, on each of four successive days, he is given a 2-liter enema with 0.5-percent solution of monohydrated sodium carbonate to which 1 ounce of colloidal kaolin is added. Kaolin is also given by mouth in 1 oz. doses, once daily on each of the above days and then discontinued, the enema being given for two days longer.

After complete expulsion of this enema, 8 ounces of crude oil is injected into the

rectum, the patient being instructed to retain it as long as possible. This colonic method has been invariably successful in all of 8 cases studied.

VENEREAL PROPHYLAXIS

The various legislative restrictions and social activities directed against venereal disease have not checked it but rather scattered it broadcast, according to Dr. Wingfield Scott Pugh, of New York, in *Urol. & Cutan. Rev.*, for November, 1926.

Dr. Pugh thinks that a properly regulated sex life is a very necessary part of the well being of every person. The sexual function should be dealt with exactly as any other physiologic process of the human body. The present attitude toward the venereal patient (regarding him as a sinner) is entirely wrong and illogical, judged from the medical and biologic standpoints. Educational campaigns in regard to venereal prophylaxis are all right if they are enforced, but the cooperation of the patient is essential.

Dr. Pugh stresses the value of immediate prophylaxis, which should be voluntary and not inquisitorial. The attempt to suppress venereal disease by pursuit of the prostitute has failed. Instruction as to danger and the necessity for immediate prophylaxis after exposure, together with the establishment of prophylactic stations at various suitable places are the methods to check the scourge.

Dr. Pugh thinks that prostitution must be recognized as an institution and be properly regulated. If prostitution could be completely suppressed far worse condition would prevail—homosexuality or one of the other perversions. Dr. Pugh says that these unnatural sex relations are on the increase, particularly in those sections where drastic attempts have been made to clear up prostitution.

COMBATING OLD AGE (ALBUGINEATOMY)

Professor E. Steinach, of Vienna, in *M.J. & Record*, January 19 and February 2, 1927, describes a new operation—albugineatomey—as a supplementary procedure to (and at times even a substitute for) his well-known vasoligature operation for rejuvenation. It is applicable only to the senile and presenile.

The technic of the new operation consists in exposing each testis through a small scrotal incision and excising a small piece of testis. When bleeding ceases or is arrested the openings are sutured. This operation can be done in ten minutes under local anesthesia.

In explanation of the rationale of this operation, Steinach states that the tightly stretched tunica albuginea keeps the whole convoluted mass of the seminiferous tubules under pressure. The tubules are usually pressed closely together leaving very small interstices free in which the

interstitial cells (Leydig's cells) are found. When the albuginea is incised the pressure decreases with enlargement of the interstices and expansion and proliferation of the interstitial cells. Spermatogenesis is not affected, but there is a partial degeneration of the seminiferous tubules in the vicinity which, as Steinach has previously asserted, reactivates the internal gonad secretion.

Bilateral albugineatomey can be recommended for the present as a "repetition therapy" in cases in which bilateral vasoligature had already produced positive results.

Steinach asserts that the reported end results have been quite satisfactory in cases of vasoligature which have been followed by different observers through several years. This, Steinach considers, is the sovereign operation, and it is only at a later date that albugineatomey should accomplish an extension of the beneficial results.

Gonadal organotherapy has failed up to now as regards the male, although in regard to the female the effect of the ovarian hormone, in combatting preclimacteric and climacteric syndromes, has been satisfactorily demonstrated.

DIAGNOSIS OF ALCOHOLIC INTOXICATION

Conditions of present day life have thrown more opportunities and responsibilities upon the physician in diagnosing alcoholic intoxication than formerly. This subject is fully dealt with by Dr. Emil Bogen, of Los Angeles, in *California & West. Med.*, June, 1927.

A study of 100 persons suspected of alcoholism, brought to the Los Angeles General Hospital, included the following routine:

- 1.—Direct question as to quantity and variety of liquor imbibed and time since last drink.
- 2.—If odor of alcohol is perceptible when patient exhales deeply.
- 3.—Size of the pupils.
- 4.—If patient's face appears flushed.
- 5.—If patient staggers or reels when he tries to walk.
- 6.—If patient can stand with feet together and eyes closed without swaying (Romberg test).
- 7.—If patient can touch tip of nose with outstretched forefinger with eyes closed.
- 8.—If patient can speak clearly without slurring or mixing up syllables.
- 9.—If any aberration of conduct or behavior were noted, especially garrulousness, boisterousness or pugnacity.
- 10.—If there was any complicating injury or disease present.
- 11.—Any other information which might be of value.
- 12.—A specimen of urine was obtained on admission and placed in a sealed test tube on ice until examined for alcoholic content. A sample of expired air was

taken in a football bladder and immediately tested for alcohol content.

While all these factors may not be observed in all suspected individuals, or may vary greatly in intensity when obtainable, Dr. Bogen has found that certain factors are more reliable than others. Thus the relationship of concentration of alcohol to the degree of intoxication is strikingly brought out. None of the patients with less than 1 milligram of alcohol per cc. of urine were found to be intoxicated and there was a general correlation between the urine concentration of alcohol and other symptoms, as shown by the author in tables. These interesting matters cannot be dealt with in this abstract.

While the concentration of alcohol in the urine cannot be taken as an absolute indication of the alcoholic concentration in the tissues, it would, on the whole, represent the summation of all the different concentrations existing during the period of secretion.

The concentration of alcohol in the breath keeps pace with that of the urine and is a useful though not absolute check.

In view of the difficulty of making the diagnosis of acute alcoholic intoxication from clinical evidence alone, and in view of the constancy of the findings of alcoholic concentration in the urine and breath, it is concluded that the examination of patients to determine the state of intoxication should in every case include some quantitative determination of the amount of alcohol present in the urine, breath or body fluids. With such evidence a physician can give a scientific and firm opinion on the witness stand.

DIABETES IN CHILDREN

Drs. A. Heimann-Frosien and H. Hirsch-Kauffmann in *Klin. Wchnschr.*, Feb. 19, 1927, state that, in the Breslau Children's Clinic, diabetic children are fed the same as nondiabetic children as long as possible. In the precomatose and comatose stages, carbohydrate-free diet and insulin administration are employed. By this method, two years of insulin treatment often sees no need for increased doses and frequently they may even be decreased. Diabetes in children is not always of a progressive nature.

VARICOSE VEIN INJECTION

Dr. V. Meissen has treated 500 cases (130 males, 370 females) of varicose veins by injections of equal parts of a 25-percent solution of sodium salicylate, and of a 10-percent solution of sodium chloride, as reported in *Ugeskr. f. Laeger*, January 20, 1927. The maximum amount injected at one time has recently been reduced to 10 cc. as this gives better results than larger quantities. Advanced age is not a contra-indication. In 135 cases, the varicose veins were complicated by ulcers, and in 40 by chronic eczema.

In all but 2 cases the sores were healed on the patient's discharge. In no case did the injections lead to the patient's death or to permanent injury, and in only 8 cases were complications noted, requiring the patient's rest in bed.

Altogether, 2,224 injections were given. Meissen thinks the injection method in every way more satisfactory than the operative.

VACCINATION AGAINST TUBERCULOSIS

For some years past a large amount of experimental work has been done in France, in regard to anti-tuberculosis vaccination, by Dr. A. Calmette and his associates.

In *Ann. de l'Institut Pasteur*, March, 1927, Dr. Calmette and his associates give a detailed account of the clinical applications of their special attenuated bovine vaccine inoculation, in infants born of tuberculous mothers or who had been in contact with a tuberculous person.

In France the average infantile mortality from tuberculosis is about 26 percent annually. For the two years following vaccination the mortality in the vaccinated infants was only 1 percent. The total number of infants observed was 969.

After the two year period, the mortality from tuberculosis among the vaccinated infants was nil. Resistance to re-infection lasts four years, so that immunization is provided against tuberculosis infection during the most dangerous period of infant life.

Calmette's inoculations of calves born from tuberculous cows have also been very successful. Vaccinated animals do not contract the disease, even when fed with the maternal milk.

A service has been organized in Belgium which prepares the Calmette vaccine and distributes it to physicians.

Anti-tuberculosis vaccination with Calmette's vaccine appears, from reports, to be successful also in countries other than France where it has been tried.

VARIATION IN HYPODERMIC DOSES

Dr. H. Dawson Furniss, of New York, has made some interesting experiments to determine how much of the dose ordered given hypodermically a patient actually gets. His results are reported in *Med. J. & Rec.* for March 2, 1927.

The usual technic of preparing a hypodermic injection from a tablet was used, and in observing this technic the following sources of loss were noted: (1) A small portion of the morphine is apt to be deposited on the spoon as the water level is lowered by boiling. (2) Some of the solution remains after aspirating into the syringe. (3) When the nurse empties the syringe of air she frequently loses one or more drops from the needle point. (4) A portion is left in the tip of the syringe and needle, and walls of the barrel and surface

of plunger. (5) Other losses from failure to tighten needle to syringe, etc.; this last is infrequent.

Carefully checked experiments were then made to determine accurately the various losses which occur when medicines are given hypodermically in this manner. It was found that, on an average, the patient actually receives only 63.2 percent of the dose ordered, and that this effective percentage varies from 32 to 88, according to the person who prepares and gives the injection.

Dr. Furniss believes that the ideal method is to have the various medicaments put up in sterile ampules containing slightly more than the indicated dose, to compensate for any wastage.

DIGITALIS THERAPY

Some main points emphasized by Dr. Walter A. Bastedo, in an article in *Ann. Clin. Med.*, May, 1927, are as follows:

Digitalis may be employed in the presence of high blood pressure.

A valvular lesion does not, *per se*, call for digitalis; nor does it affect the dosage to be employed.

The average amount for full digitalization may be calculated on the basis of two minims of the tincture, or 1/5 grain of powdered digitalis per pound of body weight, not in a single dose but by divided doses. Full digitalization may be obtained by mouth, rectal or intramuscular administration in from 6 to 24 hours.

Intravenous administration has no advantages and may be very harmful.

Small doses (5 to 60 minims per day) are indicated where there is threatened failure of cardiac compensation. These do not show any immediate measurable effect.

MERCUROCHROME AND MERCURY POISONING

The question of controlling mercurochrome reactions in the body has been investigated in the Walter Reed General Hospital, Washington, D. C. Rabbits were used for the experimental work.

Reporting the results, Dr. Jos. A. Mendelson says, in *M. J. and Record*, July 20, 1927, that neither sodium thiosulphate nor calcium sulphide can be depended upon to act as antidotes for mercurochrome poisoning; and that the efficiency of either in bichloride of mercury poisoning is doubtful.

Mercurochrome, once injected into the blood stream, is beyond control by the two remedial agents in the doses advocated and used in the author's experiments.

CONDITIONS SIMULATING EPIDEMIC ENCEPHALITIS

Drs. Rolfe Floyd and John F. Landon, New York, in *M. J. and Record*, July 20, 1927, say that the conditions that may

simulate epidemic encephalitis may be grouped as follows:

I.—Inflammatory Lesions:

A.—Of the Brain tissue:

1.—Other forms of encephalitis:

- a.—Acute pre-epidemic encephalitis.
- b.—Hemorrhagic encephalitis.
- c.—Acute serous encephalitis.
- d.—Polioencephalitis.

2.—Local septic lesions:

- a.—Abscess.
- b.—Septic softening; thrombosis.
- c.—Septic embolism.

3.—Tuberculous lesions:

- a.—Solitary tubercle.

4.—Syphilitic brain lesions:

- a.—Gummas.
- b.—Cerebrospinal lues.
- c.—Paresis.

B.—Of the pia mater:

- a.—Purulent meningitis.
- b.—Tuberculous meningitis.
- c.—Syphilitic meningitis.
- d.—Chronic meningitis.

C.—Of the ependyma:

- a.—Purulent ependymitis.
- b.—Simple serous ependymitis.
- c.—Tuberculous ependymitis.

II.—Primary Vascular Lesions (Non-Inflammatory):

A.—Hemorrhage:

1.—In the brain tissue:

- a.—Small and localized.
- b.—Large and spreading.

2.—From pial vessels:

- a.—Idiopathic, in children.
- b.—In status lymphaticus.

3.—From dural vessels:

- a.—Internal pachymeningitis hemorrhagica.

4.—From larger intracranial vessels.

- a.—Ruptured aneurysm.

B.—Arteriosclerotic stenosis:

- a.—Local ischemia.
- b.—Local brain softening.

III.—Intracranial Tumors:

- a.—Primary.
- b.—Metastatic.

IV.—Conditions That Cause Symptoms Without Easily Recognized or Typical Lesions:

A.—Intoxications:

- a.—True uremia, due to nitrogen retention.
- b.—Meningismus.
- c.—Alcoholism.
- d.—Lead poisoning.
- e.—Gastrointestinal (in Children).

B.—Increased intracranial pressure, with resulting ischemia:

- a.—Traumatic.
- b.—Nephritis edema (false uremia).

C.—Early insanity:

- a.—Dementia precox.
- b.—Manic depressive states.

The authors present this list of some of the conditions with which epidemic encephalitis may be confused, to show, particularly, that the diagnosis of this condition is not easy and must often remain uncertain unless confirmed by autopsy.

INTRAVENOUS INJECTIONS OF TYPHOID VACCINE IN PARESIS

In 1926, Kunde published a report of the treatment of general paralysis by intravenous injections of typhoid vaccine.

Dr. W. B. Jennings, of Middletown, Conn., has similarly treated 18 cases and reports the results in *M. J. and Record*, June 15, 1927.

The technic requires only a solution of typhoid vaccine, a 2 cc. hypodermic syringe, alcohol and a rubber for a tourniquet. Dr. Jennings begins by giving an initial dose of 250 to 300 million bacteria intravenously. The second and subsequent doses are increased until the patient has had twelve to fourteen injections.

Patients show clinical improvement after three to four injections. Of the total 18 patients treated, 10 appeared to make a good remission, 5 showed a slight improvement and 3 showed no improvement. With the exception of herpes labialis, there were practically no complications.

Patients showing cardiorenal disease were excluded from this treatment.

The advantages of this method over the treatment with malaria are that the patient is not inoculated with a disease which may have grave sequelae; the medicament can be prepared in the laboratory; the degree of fever can be accurately controlled by adjusting the dosage; the mortality and morbidity are much lower.

OPERATION HISTORY FOR USE OF PATIENT

In the present day, when surgical operations are common but when patients often change both their doctor and their residence, it happens frequently that a patient will come to the physician for the first time with an evident scar of an old operation but with only vague knowledge of what was actually done.

In *Le Monde Méd.*, April, 1927, Dr. G. Coupu expresses his opinion that every patient operated upon should be furnished with a concise report stating exactly what the surgical findings were and what was done. Patients have their uranalysis records, Wassermann test record, x-ray record, etc., and the surgical record should also be given them so that at any later time, should the occasion arise, their medical advisor will be able to form an opinion based on their medical and surgical history.

PHYSIOLOGY OF THE GASTRO- INTESTINAL TRACT

Summarizing recent advances in gastroenterology, Dr. A. C. Ivy, of Northwestern University Medical School, in *Am. J. M. Sc.*, April, 1927, states that the external secretion of the pancreas is without doubt the most important of the digestive secretions,

although little is yet known of the causes and mechanism concerned in the secretion of pancreatic juice.

Ivy further states that, as the results of experiments, it appears clear that a hormone is one of the mechanisms concerned in the external secretory response of the pancreas to a meal, and that this hormone appears to arise in the upper intestinal tract on the application of chemical substances in food to the mucosa, more particularly acid chyme in contact with the duodenal mucosa.

CLOTHING PERMEABLE TO ULTRA- VIOLET RAYS

A chance result of x-ray experiments in the laboratories of Professor A. M. Low, has led to a discovery that most clothes, which have up till now been considered to be healthy and open, do not pass any ultraviolet rays whatsoever.

We are informed that it is now possible by a treatment so simple as to be negligible in cost, to render some types of cloth, rather of the character usually used for golfing, and similar clothes, permeable to the ultraviolet radiation, thus allowing the radiation in sunshine and daylight to be received by the body.

Although it may be many years before rational clothes, made in one piece garments, replace what Professor Low refers to as an "extraordinary collection of bits", it is obviously of great importance that, for the sake of health, people should wear such clothes as admit the ultraviolet rays to their skins.

We are informed that it is not yet certain whether Professor Low's process is patentable, but if it is possible to patent the process it is hoped that cloth so treated will be marketed on a commercial scale.—From the *British Journal of Actinotherapy*, June, 1927.

ROENTGEN-RAY THERAPEUTIC ABORTION

Within the past decade many reports of roentgen-ray therapeutic abortion appear in the literature.

In *Am. J. Obst. and Gynec.*, July, 1927, Drs. Dorean D. Wyser and Max D. Mayer, of New York, report a series of 22 such cases in patients varying in age from 19 to 42 years. In almost all, sterilization was a matter of choice or necessity.

The typical procedure consisted in giving four treatments, in hospital. The patient was then discharged but reported for weekly observation. Abortion took place spontaneously with comparatively slight discomfort and less bleeding than in ordinary miscarriage, except in a few instances. Occasionally the use of forceps was necessary.

Castration symptoms were not severe and all cases have remained amenorrheic.

The dosage employed approximated a 90 percent erythema dose, which delivers about 30 percent at the center of the pregnant uterus. Expulsion may take place any time from fifteen to fifty days after the treatment is concluded.

The authors recommend the method as a valuable addition to gynecology, if carefully restricted to cases in which all indications have been met, the contraindications considered, and where the necessary tested equipment is available; especially with patients to whom surgery or anesthesia is dangerous and underlying disease contraindicates future pregnancies.

X-RAY PICTURES IN DAMAGE SUITS

Dr. Eugene R. Corson, in *Radiol. Rev. and Chicago M. Rec.*, May, 1927, calls attention to the many poor x-ray pictures produced in courts of justice, and also to errors of interpretation showing carelessness or inexperience on the part of radiologists.

X-ray apparatus and technic have reached such excellence that there is now no excuse for poor plates.

A careful study of the case and of the literature bearing upon it would give the radiologist a better vision of all the factors and make him a better witness, less afraid of hectoring by opposing counsel.

SMALLPOX VACCINATION, NEW TECHNIC

In the *J.A.M.A.* for June 11, 1927, Drs. Stanley Thomas and R. C. Bull recommend the "pressure technic", originated by Dr. J. P. Leake, of the U. S. Public Health Service, which is as follows:

A simple method is a shallow, tangential pricking of the cleansed but not irritated skin with a needle, through a drop of smallpox vaccine, covering an area not greater than one-eighth inch (3 mm.) in diameter. This gives little chance of accidental infection and the eruption is typical. The needle, which should be new, sharp and sterile, is not thrust into the skin but is held quite parallel or tangential to it, with the forefinger and middle finger of the right hand above the needle and the thumb below, the needle pointing to the operator's left. The needle should be cross-wise of the arm, so that the thumb of the operator is not impeded by hitting the skin.

The side of the needle point is then pressed into the drop about thirty times within five seconds, the needle being lifted clear of the skin each time. This rapid to and fro motion of lifting the needle and pressing it against the skin should be quite perpendicular to the skin, and not in the direction of the needle. In this way the elasticity of the skin will pull a fraction of an inch of the epidermis over the point of the needle at each pressure so that the vaccine is carried into the deeper

layer of epithelial cells, where multiplication takes place most easily. If the skin has not been unduly rubbed in cleansing, and if the motion is entirely perpendicular to the needle, no signs of bleeding will occur and all evidence of the punctures will fade out in less than six hours.

Immediately after the punctures have been made, the remaining virus is wiped off the skin with sterile gauze and the sleeve is pulled down, the whole operation of puncturing and wiping taking less than ten seconds.

The disadvantages of this method, which it shares with some other methods, are: first, that without due care an area larger than one-eighth inch (3 mm.) in diameter may be covered by the insertion. In regard to the first point, the difficulty is usually that the needle is not pressed in the right direction or that the pressure is not firm enough. Provided the needle is held quite tangential to the curve of the arm, and the direction of motion is quite perpendicular to the needle, it is difficult to make the rapid pressure too firmly. In regard to the second point, motion from the wrist, with the arm held rigid, is usually more accurate than whole arm motion.

The advantages of the method are its mildness and painlessness, the fact that it is more rapid than any other effective and safe method, the fact that no control site is necessary since the evidence of trauma due to the operation has disappeared before the first observation for an early reaction is made, and the fact that the virus is wiped off immediately, so that the uselessness of a dressing is obvious to the person vaccinated.

From their observations on 1000 persons vaccinated the authors conclude that:

1.—Of the methods employed by us for the vaccination against smallpox, the pressure technic has been shown to be as efficacious as any other in inducing vaccinia in susceptible persons.

2.—The pressure technic has the advantage of saving time in vaccinating a large number of persons in a short time.

3.—The pressure technic overcomes the objection to the use of a dressing following vaccination and makes the dressing or shield obviously unnecessary.

4.—The pressure method is more desirable from the point of view of the vaccinated person.

SUPPORT FOR LACTATING BREASTS

When the breasts first begin to secrete true milk, the swelling and turgidity of these organs is frequently very distressing and their weight may cause them to sag, thus constricting the ducts and preventing the flow of milk, which increases the trouble.

In *Am. J. Dis. of Child.* for May, 1927, Dr. L. R. De Buys describes an adhesive plaster bandage which he has found very useful during the first 10 days of the puer-

perium; at the time of weaning; and for mothers whose infants die at birth.

The patient is placed in a horizontal position with the arms extended above the head; this brings the breasts in the proper position. The first strap is applied just below the lower margin of the breasts, the second strap, just above the upper margin. The third strap extends from beneath one breast, just where it would ordinarily fold, to above the other breast and is attached to both the upper and lower straps so as to suspend the breast and prevent a folding of it. The fourth strap is the diagonal opposite to the third strap. A fifth strap is applied in the median line extending from below upward.



The Completed Bandage.

The width of the straps varies, depending on the size and character of the breasts to which they are to be applied; the lower strap usually is about $3\frac{1}{4}$ inches wide; the upper one may be slightly narrower.

The dressing should be applied between the fourth and sixth days, as this is the time during the evolution of the lactating breasts when they become firm and painful. If the dressing is applied before this time, as may be advisable in some cases, allowance should be made in strapping for further normal swelling.

ACRIFLAVINE FOR POLYARTHRITIS RHEUMATICA

In the *Muench med. Wchnschr.*, July 29, 1927, Dr. Franz Lachner mentions his use of a 2-percent tryptaflavine (acriflavine) solution, injected intravenously, in cases of acute articular rheumatism. This was of value especially in cases in which the heart was threatened.

In many cases of polyarthritic disease, varying from the acute initial attack to those with established recurrence and heart complications, a daily, or even twice daily, injection of 1 cc. of a 2-percent tryptaflavine

solution has been effective when other methods failed. Pain and the generalized paralytic feeling are relieved after a few hours. Patients quite helpless with stiffened joints were able to leave their beds after 14 days of treatment. The method should not be expected to give results in organic heart disease.

MAGNESIUM SULPHATE IN ECLAMPSIA

Reports have appeared in the literature, based on animal experiments, that injections of magnesium sulphate were detrimental in eclampsia.

Dr. E. M. Lazard, of Los Angeles, Calif., considers such a conclusion unwarranted. In *Am. J. Obst. and Gynec.*, June, 1927, he shows, based on the experience of a large number of clinical cases, that in therapeutic doses (20 cc. each injection) magnesium sulphate, given intravenously, does not exert any deleterious action on the blood, nor does it produce any pathologic changes in the liver; on the contrary, in active eclampsia, by relief of the toxemia, it has a beneficial effect on the blood.

The author's experience, during the past two and a half years (in the Los Angeles General Hospital), of the use of magnesium sulphate in preeclamptic patients, has demonstrated its value as a prophylactic measure in these cases. No claim has been made that the treatment is specific nor that 100 percent success can be expected; but with it the mortality from eclampsia should be less than 10 percent and with further development ought to be less than 5 percent.

EMOTION IN GYNECOLOGY

The symptoms which arise from disordered functions are the same whether the cause be of local, constitutional or emotional origin.

In an article by Dr. Donald Macomber, of Boston, in *Am. J. Obst. and Gynec.*, June, 1927, he shows that chronic fear, grief or worry, especially when based on marital unhappiness or sexual life dissatisfaction, can produce symptoms of extraordinary variety. These emotional states are intimately bound up with changes of a functional nature in various internal organs, the changes being produced through the intermediary of the sympathetic nervous system. The common pelvic symptoms in such circumstances are caused by changes in the circulation which produce a passive congestion.

But there is another way also in which emotions produce their effect upon the pelvic organs, namely, through disturbances in the production of the various hormones.

Thus, although the pelvic organs of woman may exhibit functional disturbances because of the presence of disease or abnormalities, such disturbances may be also

due to emotional states of the woman, through their effects upon the circulatory and endocrine systems.

The symptoms produced include all of the more common ones well known to the gynecologist, such as menorrhagia, dysmenorrhea, amenorrhea, backache, fatigue, leucorrhea and urinary frequency.

Several illustrative cases seen in practice are cited.

THE SURGEON'S POSITION DURING APPENDECTOMY

The McBurney incision method necessitates the surgeon being on right side of patient.

Dr. John E. Loveland, of Middletown, Conn., in *Am. J. of Surg.*, June, 1927, gives seven advantages of a left side position of the surgeon, using a right rectus incision. These are: (1) a better view of the appendix and other viscera; (2) less elevation and less traction of the rectus muscle and underlying vessels are necessary, thus lessening traumatism; (3) the operator can see better to deal with bleeding subrectus vessels; (4) when a retractor is needed, an assistant on the right side can retract more easily; (5) the surgeon can see better from the left side to make a stab drainage wound; (6) if the incision needs to be extended upward, the dissection is more safely and conveniently done with the right hand, while the left hand in the abdominal cavity furnishes protection to the pouting viscera; (7) the gall-bladder can be seen better.

After the appendix has been located and isolated, the surgeon can shift to the right side if he finds it handier to complete the operation in that position.

LOCAL ANESTHETIC POISONING

While some local anesthetics are far safer than others yet all have a greater or less systemic reaction.

There is insistent research to find a prophylactic method of obviating or checking the toxic effects of local anesthetics, which are primarily due to excessive medullary irritation and injury. It was believed that, if the nerve centers could be sufficiently depressed by means of a hypnotic, they might remain indifferent or nearly so to the excessive stimulation of the local anesthetic.

Carl Nielsen, of the Abbott Laboratories, North Chicago, Illinois, in *Bull. of the Wayne Co. Med. Soc.*, August 30th, 1927, reports upon a number of experiments,

with hypnotics of the barbituric acid series as detoxicating agents, made by himself and others. Administration of barbital (diethyl barbituric acid) and of Neonol (butyl-ethyl barbituric acid), by mouth or intravenously, $\frac{1}{2}$ to 1 hour in advance of anesthesia, enabled animals to recover from doses of cocaine or butyn many times the normally minimum lethal dose without a single clonic convulsion or serious interference with the respiration. Even delaying injection of the hypnotic until violent convulsions appeared, following very high dosage of the anesthetic, the convulsions were instantly checked and the animals recovered.

The higher the brain development of animals the less hypnotic is required to check the toxic action of the anesthetic; man should require a smaller proportionate dosage than animals.

One hundred patients, operated upon by Dr. John Leshure, of New York, with administration of 6 to 12 grains of sodium barbital by mouth as a local anesthesia prophylactic, manifested no undesirable symptoms, whereas previously, under the same conditions, without the prophylactic, there were frequent symptoms of poisoning.

Dr. E. G. Martin, of Detroit, also testifies to the efficacy of barbital (5 to 10 grains) administered the night before operation as a preventative of the mental and physical symptoms following novocain anesthesia.

NON-SPECIFIC THERAPY OF TABES

Dr. Leo Isaacson, of Sioux City, in *Urol. & Cutan. Rev.*, June, 1927, reports the case of a man of 38, with a four plus Wassermann test and the typical symptoms of tabes, whose subjective symptoms were unaffected by intensive neosarsphenamine and mercurial treatment for six months.

Non-specific treatment; namely the injection of a stock vaccine of staphylococci in massive doses (from 500 millions to 5 billions of organisms) was tried. Strong general and local reactions followed. Three injections, at 4-day intervals, were given and then mild, mercurial inunctions were started and continued for 6 months. The objective symptoms improved, the ataxia became much less marked and the patient now was able to reap benefit from the arsphenamines and bismuth. At the present time, one and one-half years after the beginning of treatment, his improvement is very striking.

The case shows the value of non-specific therapy in increasing a syphilitic patient's resistance and making him amenable to specific therapy.

New Books

FANTUS: MEDICATION

THE TECHNIC OF MEDICATION. Discussion of the Methods of Prescribing and Preparing, the Indications for, and the Uses of, Various Medicaments. By Bernard Fantus, M.D., Chicago. Chicago: American Medical Association, 535 North Dearborn Street. 1926. Price \$1.50.

It is not many years ago since we used to hear the cry of "therapeutic nihilism." Those were the days when surgery was rampant. But today surgery is rational and the successful direction of pharmacologic and pharmacodynamic phenomena, as well as the vast advances in chemotherapy, have opened up new fields for drug therapy and invested it with a scientific basis which was often lacking in the older, more empiric methods.

The disuse of medication had, however, the effect that much of the accumulated knowledge regarding the best methods of using and administering drugs has practically become lost, to a great many.

To Dr. Bernard Fantus, more than to any other living authority, are we indebted for his insistence on the value of method in drug medication. The present little work is a mine teeming with wealth which is available and necessary for every physician who is really desirous of being what he professes to be—one who knows remedies for diseases and how best to apply them.

With the doctor of today the prescription is often a perfunctory affair; often it is only for a proprietary product. Is it any wonder that patients should resort to self-drugging or avail themselves of counter-prescribing?

In this volume, the metric system is used throughout, and all prescriptions are written in English, which practice Dr. Fantus strongly advocates. The U. S. P. X. is the standard used.

Beginning with local methods of treatment, all sorts of lotions, fomentations, ointments, and the like are fully considered, as well as applications to the eye, ear, nose, throat, etc. Full details are given in every case.

Peroral medication is fully discussed, from the pharmacologic as well as the pharmacologic standpoint, including the matter of dosage and the important feature of pleasant medicines.

Enemas, suppositories, douches, irrigations, etc., are amply dealt with.

Nearly one-third of the book is devoted to parenteral therapy, by hypodermic, intramuscular and intravenous injection, as well as injections into the ventricles of the brain and into other organs. Vaccino-therapy is included.

Dr. Fantus' book is one that should not only be in every physician's library but should be carried about with him and with whose contents all doctors should be thoroughly familiar.

The price is small, and no sincere physician can afford to be without this invaluable addition to his professional armamentarium.

LUCAS: PEDIATRICS

THE MODERN PRACTICE OF PEDIATRICS. By William Palmer Lucas, M.D., LL.D., San Francisco. New York: The Macmillan Company. 1927. Price \$8.50.

Dr. Lucas, in his usual systematic and careful way, has given the profession and those studying medicine, a very valuable and complete textbook of the modern knowledge of pediatrics. There are thirty-one chapters dealing with infancy and nineteen chapters devoted to childhood.

The book is dedicated "To the 'Chief,' Herbert Clark Hoover, that great layman in Preventive Pediatrics, to whom millions of children owe, not only their lives, but their chances for normal development."

Dr. Lucas' experience in France during the war has given him valuable information which he discusses.

There are detailed feeding charts for underweight children, which are a great help for distracted mothers; there are numerous references to modern pediatric authors, and altogether the book is an excellent one for students and general practitioners. It is also to be highly recommended for pediatricists as the newest textbook on the subject.

R. H. K.

CABOT: PHYSICAL DIAGNOSIS

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D., Professor of Medicine in Harvard University, Formerly Chief of the West Medical Service at the Massachusetts General Hospital. Ninth Edition. Revised and Enlarged, With Six Plates and 279 Figures in the Text. New York: William Wood and Company. 1927. Price \$5.00.

Cabot's textbook on physical diagnosis is well known and the fact that it has run into nine editions in a little more than twenty years speaks not only for its popularity but for its practical value.

In the present edition many changes have been made in the chapters referring to cardiovascular disease, tuberculosis and the blood.

It seems evident that many of Dr. Cabot's opinions have been based on the study of cases in the Massachusetts General Hospital and the opportunity afforded

there of comparing and verifying symptoms in these cases by autopsy findings.

This textbook is of particular value to the general practitioner at the present time when the tendency is to ignore clinical methods and rely too much on laboratory diagnosis; to consider disease as always typical and to ignore the patient and his idiosyncrasies.

BOHM AND DIETRICH: REAGENTS AND NUTRITIVE SUBSTANCES

REAGENZIE UND NÄHRBÖDEN. Eine Zusammenstellung der wichtigsten und zweckmassigsten Vorschriften für die Laboratoriumspraxis. Von Dr. Phil. E. Böhm, Apotheker und Chemiker, Berlin; und Dr. Phil. K. R. Dietrich, Apotheker und Chemiker, Berlin. Berlin N 24, Friedrichstrasse 105 b und Wein 1, Mahlerstrasse 4: Urban & Schwarzenberg. 1927. Price \$4.28.

This volume is intended to be of assistance in chemical, pharmaceutic, bacteriologic and similar laboratories. In a classified order are given the formulas for various test solutions, together with brief statements regarding the uses of these tests. Tables, calculation formulas, etc., are given in the appendix. The book is well indexed and should be a useful addition to any laboratory book shelf.

E. H. V.

BUSH: PHARMACOLOGY

A TEXTBOOK OF PHARMACOLOGY. By A. D. Bush, B.S., M.D., Professor of Pharmacology, Emory University, Georgia. Philadelphia, 1012 Walnut St.: P. Blakiston's Son & Co. 1927. Price \$2.00.

A very handy and concise volume, intended for students of pharmacy and practicing physicians, designed to contain everything that is necessary to know concerning the most commonly used pharmaceuticals.

Apparently there is no systematic order in the arrangement, but each drug is treated in the same way, with definite subcaptions, and the uses, effects and complications, etc., can be seen at a glance.

Without being burdened with a lot of unnecessary detail the busy practitioner can find in this book all that he needs to know about ordinary medicaments, organic and inorganic.

WILLMAN: FAMILY HANDBOOK

MARRIED LIFE: A FAMILY HANDBOOK. By Reinhold Willman, M.D. 5th Edition Revised, Reprinted and Copyrighted. St. Joseph, Mo., 1215 Farson St.: Author. 1927. Price \$3.00.

This is a book intended chiefly for the instruction of laymen in the prerequisites and conduct of the marriage relation, the rearing and instruction of children and the management of the ordinary emergencies which occur in the home.

The chapters on the preparations for marriage and the study of the sexual relation and its hygiene and esthetics are sound and well considered. The author does not overstress the evils of masturbation; but his view that birth control is wrong and dangerous is in conflict with the ideas of our soundest thinkers.

In the chapters on the home management of various diseases, Dr. Willman frequently recommends consulting the family physician, but he still goes too far in suggesting domestic remedies. His advice to give purgatives to patients with suspected appendicitis is unsound and pernicious.

On the whole, it is a book which we cannot conscientiously advise physicians to give their patients for undirected reading. If we could give them the good parts and leave the others out, all would be well.

The physician himself, if unacquainted with modern ideas regarding the relations of the sexes, may find points of value; but there are better books for this purpose.

ZEUCH: MEDICAL PRACTICE IN ILLINOIS

HISTORY OF MEDICAL PRACTICE IN ILLINOIS. Volume I, Preceding 1850. Issued by The Illinois State Medical Society in Commemoration of Its Diamond Jubilee. Compiled and Arranged by Lucius H. Zeuch, M.D., a member of the Committee Appointed for this Task and Also a Member of the Chicago Historical Society, etc. With many Illustrations and Original Maps. Chicago: The Committee on Medical History, Illinois State Medical Society, c/o Cashier, The Bowmanville National Bank, 4806 North Western Ave. (Printed by The Book Press, Inc.) 1927. Price \$10.00, two volumes, sold only on subscription.

This volume will be welcomed by every practitioner of medicine, and especially by citizens of Illinois, because the early doctors whose lives are here portrayed were more intimately connected with the inner life of the people than any other class of men or women in the country. Moreover, not only the present State of Illinois but the profession of the whole Mississippi valley will be interested, because the "Illinois Country" of the early days included all that vast region.

The present book is Volume I of the history and includes the period up to 1850. It speaks well for the industry of the state medical society that it should have gathered this vast, rich material from the various archives, both public and private, and enshrined it in this permanent work; also for the work of the editor in arranging this mass of records into an orderly and readable story.

The work is of necessity mainly composed of biographic sketches of the medical pioneers and we get illuminating glimpses of the times and circumstances in which these men lived. The lives and unrecorded deeds of many of these obscure

men would suffice to win for them the term *great*, in the true sense of the word.

It is the business of the reviewer not alone to recognize the excellencies of a literary work but also to point to any matter which may seem to call for friendly criticism. It is in this sense that we would say that, while the present work is so admirable from the biographic point of view, it is more a history of medical practitioners than of medical practice in Illinois. Thus, although Ephraim McDowell first performed ovariectomy in 1809, it is difficult to find in this volume the history of this and other abdominal surgical procedures in Illinois previous to 1850. There is a brief mention on page 551 that Dr. Hard performed a successful tracheotomy long before that operation became common; and on page 647 there is a short epitome of the status of medicine at the period of the book; but these, as well as scattered references, scarcely justify the work being regarded as a critical history of medicine. However, when the history of medicine in Illinois comes to be written, this work will be invaluable as a collection of notes and records from original sources.

The book is easy to read and should prove interesting to many.

KULKARNI: CHILD TRAINING

CHILD TRAINING IN THE LIGHT OF THEOSOPHY. Compiled by Prof. R. K. Kulkarni, Honorary Secretary, League of Parents and Teachers, Adyar and Gwalior, Edited by Julia K. Sommer, A.M. (Columbia), Chairman, Theosophical World-University Association in America. Wheaton, Ill., The Theosophical Press. 1927. Price \$1.75.

The system of teaching in vogue in the times of our grandparents is passing, but not rapidly enough for the best interests of the children. Some teachers are realizing that education means drawing something out of a child, not cramming something in.

This book is the most enlightened and enlightening discussion of the problem of child training that we have seen, and the language is so clear and simple that anyone of ordinary intelligence can understand it.

The chapters on Music and Art Appreciation, The Dramatic Instinct, and The New Discipline are especially valuable and present some fresh viewpoints. There is not, however, a dull page in the book for those who are interested in the welfare and rearing of the young. A number of the chapters are accompanied by lists of other books along the same lines, which adds to the value of this volume.

The book is well made and well printed.

If this humane and civilized consideration of the problems of child education could be studied and put into practice by every teacher in the country, many of the difficulties which we foresee for and with the youngsters would disappear over night.

But it ought to go further than that. It ought to be in the hands of every parent, and a knowledge of what it contains should be made a necessary prerequisite for parenthood.

Physicians can learn many useful lessons from it in the handling of children, and will be doing a service by recommending it to actual and prospective mothers.

PORTER AND CARTER: MANAGEMENT OF THE SICK INFANT

MANAGEMENT OF THE SICK INFANT. By Langley Porter, B.S., M.D., and William E. Carter, M.D., San Francisco. Third Revised Edition. St. Louis: The C. V. Mosby Company. 1927. Price \$8.50.

This volume contains twenty-five chapters, divided into three parts, and devoted to a consideration of the diagnosis and treatment of the diseases of infancy.

Drs. Porter and Carter are well-known San Francisco pediatricists, and Dr. Porter has just been appointed Dean of Students at the University of California.

The book fills a distinct niche in medicine, because hitherto no one book has been published which has had so complete a fund of information in one volume on such an important subject. The fact that it is now in its third edition testifies to its popularity.

The first part is divided into chapters on Vomiting, Diarrhea, Constipation, Hemorrhage, Fever and Cough.

The second part contains chapters on Diseases of the Respiratory, Digestive, Cardiac, Blood, Nervous, Genito-Urinary, and Osseous Systems; Skin and Infectious Diseases.

The third part has chapters on Methods, Formulas and Recipes; Drugs; and Poisoning.

The print is easily legible, the illustrations are good, and the book is one which is of great value for the general practitioner and the pediatricist.

R. H. K.

CECIL: TEXTBOOK OF MEDICINE

A TEXT-BOOK OF MEDICINE. By American Authors. Edited by Russell L. Cecil, A.B., M.D., Assistant Professor of Clinical Medicine in Cornell University; etc. Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E., Professor of Neurology, in Cornell University, etc. Philadelphia and London: W. B. Saunders Company. 1927. Price \$9.00.

For many years past it has been customary in preparing textbooks and treatises on medicine to combine the work of several authorities, owing to the diversity and extent of the ground to be covered. Even in special branches of medicine this practice has often necessitated several volumes to cover the subject.

The present volume is somewhat of a departure from the foregoing practice. It represents the work of no less than 130

American contributors, each of whom is more or less of a specialist or well known authority in his particular subject; these have covered the whole range of medical practice in one volume of less than 1,500 pages. Each contribution is signed by its author and from their standing as university teachers, little doubt can be entertained that the authors present each subject with a full and precise knowledge of its present status.

In this book, therefore, medical practitioners and students have the benefit of an authoritative and up-to-date treatise on every medical subject, presented by men who are specially trained in teaching these subjects.

As an example that the book does not miss anything new that is of value it may be mentioned that it includes the treatment of asthma by ephedrine.

At the same time the descriptions are not so prolix that they do not leave room for individual thought or even individual knowledge of the subject.

The arrangement and general editing of the book seem excellent. Dr. Foster Kennedy, Professor of Neurology, Cornell University, is associated with Dr. Cecil as special editor of the section on diseases of the nervous system.

This should be a valuable addition to the library of any physician, especially a busy general practitioner.

KER: FEVERS

KER'S MANUAL OF FEVERS. *Revised by Claude Rundle, O.B.E., M.D. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H., Medical Superintendent, City Hospitals and Sanatorium, Fazakerly, Liverpool, and Lecturer on Infectious Diseases to the University of Liverpool. Third Edition. London, New York, etc.: Humphrey Milford, Oxford University Press, 1927. Price \$3.75.*

This book, though primarily intended for students in the wards, has all the clinical data likely to be of value to the practitioner. It is indeed a clinical manual of the acute infectious diseases and should be very useful for rapid reference or more careful study.

The present (third) edition has been revised by Dr. Claude Rundle in accordance with the most recent advances in bacteriology, immunology, serum therapy, etc.

MUIR: BACTERIOLOGICAL ATLAS

BACTERIOLOGICAL ATLAS. *A Series of Colored Plates Illustrating The Morphological Characters of Pathogenic Micro-Organisms. By Richard Muir, Demonstrator of Pathological and Bacteriological Methods in the University of Edinburgh. New York: Wm. Wood & Co., 51 Fifth Avenue, Edinburgh: E. & S. Livingstone, 16-17 Teviot Pl. 1927. Price \$4.50.*

In his preface the author modestly says that he considered this atlas would be help-

ful to the student as a companion to the various bacteriology textbooks. It is this and a good deal more. It seems to us that it supplies something long needed—a compact atlas that will be of immense value to the pathologist by giving the morphologic features of the various pathogenic micro-organisms; the general practitioner too should be familiar with these plates, or at least with the microscopic appearances of the most common organisms.

The pictures represent a magnification of about 1,000 to 1,500 diameters and are printed in color. They were drawn from sections of tissues and from various stained films and are among the clearest and most satisfactory we have ever seen.

This handy volume should be welcomed by every pathologist, medical investigator, and by every practitioner who uses a microscope in doing his own laboratory work.

CHAPMAN: HEART DISEASES

THE HEART AND ITS DISEASES. *A Handbook for Students and Practitioners. By Charles W. Chapman, M.D. (Durh.), M.R.C.P. (Lond.), Consulting Physician to the National Hospital for Diseases of the Heart, London; etc. New York: William Wood & Co. Edinburgh: E. & S. Livingstone. 1927. Price \$3.50.*

A concise summary of the well-established facts in regard to heart diseases and their treatment, based on extended experience.

The book includes a chapter on heart disease in children and one on marriage and maternity in the case of patients with heart disease.

Useful for review or quick reference.

MEDICAL CLINICS OF NORTH AMERICA

THE MEDICAL CLINICS OF NORTH AMERICA. *(Issued serially, one number every other month.) Volume 11, Number 2. St. Louis Number, September, 1927. Illustrated. Philadelphia and London: W. B. Saunders Co. Price per clinic year (July, 1927 to May, 1928), Paper, \$12.00; Cloth, \$16.00 net.*

The September, 1927 (the St. Louis Number), of this excellent serial contains twenty-seven contributions, all by St. Louis clinicians.

The volume opens with "Further Clinical Studies of Essential Arterial Hypertension" by Drs. E. S. Smith and H. S. Liggett, based on 267 cases observed in the Department of Internal Medicine, Washington University.

Among the many other notable contributions, the clinician will find the following of particular value: "Treatment of Peptic Ulcer," by Dr. H. W. Soper; "The Diagnosis of Multiple Liver Abscess," by Dr. D. P. Barr; "Heart Block, Auricular Flutter and Adenoma of the Thyroid," by Dr. A. E. Strauss; "The Associated Cardiac States in Hyperthyroidism," by Dr. A. Mc-

Mahon; "The Davis Treatment and Tryparsamid in Acute Pemphigus," by Dr. J. Grindon; "The Diet Problem in Chronic Bile-Tract Disease," by Dr. O. P. J. Falk; and "The Nervous Breakdown," by Dr. C. H. Neilson.

STRICKLER: SKIN DISEASES

TEXTBOOK ON DISEASES OF THE SKIN AND SYPHILIS. Designed for the Use of Students and Practitioners. By Albert Strickler, M.D., Professor of Dermatology and Syphilology, Temple University Department of Medicine; Dermatologist to the Samaritan Hospital; etc. With 218 Illustrations, Including 6 Full Page Plates, Some in Colors. Philadelphia: F. A. Davis Company. 1927. Price \$8.00.

The author's aim in writing this new textbook is to present to the student and to the general practitioner a textbook on dermatology, constructed on sound pedagogic principles. The author's experience as a teacher has shown him the need of such a treatise.

The object sought in this volume is to so present the pathologic, the clinical and therapeutic facts as to render the clinical teachings clear, on the basis of the pathologic conditions; and the therapeutic suggestions sound, on the basis of the pathologic and clinical findings.

The various skin diseases are arranged in an etiologic classification and good illustrations supplement the text when necessary.

The whole arrangement of the book seems admirably to fulfil the author's aim of producing a clear and logical teaching manual for students and for busy physicians in active general practice.

WECHSLER: CLINICAL NEUROLOGY

A TEXT-BOOK OF CLINICAL NEUROLOGY. By Israel S. Wechsler, M.D., Assistant Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, The Montefiore Hospital, New York. Illustrated. Philadelphia and London: W. B. Saunders Company. 1927. Price \$7.00.

There is need of a good work on clinical neurology, which can be used by the general practitioner, and Dr. Wechsler's textbook seems to supply this need.

The author describes the various neurologic lesions in such a way that the signs and symptoms grow out, as it were, of the anatomo-pathologic substratum and are seen to be consequent upon the underlying physiologic disturbance.

The general practitioner, who meets with a case which he may suspect to be a lesion of, say, the seventh nerve, or perhaps a brain lesion, may here find the general clinical picture of these conditions and verify his suspicions. Only such anatomic and pathologic facts are given as are necessarily called for in describing the clinical picture.

The book is based mainly on personal teaching and clinical experience; it represents bedside neurology; polemic discussions, detailed case reports, and the tiresome descriptions, which are rarely read, are omitted; what is left represents the pertinent clinical facts which fit the lesion under discussion and leave the practitioner to use his common sense and experience.

For those who desire to pursue a more detailed study of particular conditions, carefully selected bibliographic references are given at the chapter endings.

The illustrations which are scattered through the book are of the same practical kind as the text.

This is a good book and practitioners should have it on their bookshelves.

BOURQUE: THYROID GLAND

THE THYROID GLAND AND ITS DISEASES. By Dr. Norbert Odeon Bourque, B.Sc., E. A. Seminarium; M.D. University of Lausanne; D.M.C., University of Paris; M.D., University of Tenn.; (U. of N.) Sanitary-Surgeon-French-Marine; Attending Surgeon Lakeside and Washington Park Hospitals; etc. Chicago, 435 S. Honore St.: Chicago Medical Book Company. 1927. Price \$4.00.

This book gives the anatomy, physiology and pathology of the thyroid gland and associated organs, with special reference to goiter and its treatment.

In general, the book is frankly a compilation, the author selecting and arranging the generally accepted and proved facts regarding the various goiters and their treatment, and adding such observations as his own experience has suggested. The aim has been to produce a practical, accurate and concise treatise concerning the thyroid gland and its diseases and as such it will be of value to practitioners.

There are a number of illustrations.

TODD AND SANFORD: CLINICAL DIAGNOSIS

CLINICAL DIAGNOSIS BY LABORATORY METHODS. A Working Manual of Clinical Pathology. By James Campbell Todd, Ph.B., M.D., Professor of Clinical Pathology, University of Colorado School of Medicine; and Arthur Hawley Sanford A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Sixth Edition, Revised and Reset. With 346 Illustrations, 29 in Colors. Philadelphia and London: W. B. Saunders Company. 1927. Price \$6.00.

This is the sixth edition of Todd's textbook which is well known to students and laboratory workers.

Such changes as have been necessitated by advances in clinical pathology since the last edition in 1925 have been made and detailed descriptions of the technics of all

the newer tests have been added, bringing the book up to date.

In the present edition Dr. Todd has taken Dr. Arthur H. Sanford, of the Mayo Clinic, as a collaborator.

Many of the illustrations in the old editions have been replaced by more suitable ones in this edition.

A practical working manual for those who are making laboratory examinations or who desire to familiarize themselves with these matters.

BURNET: DISEASES OF THE NEWBORN

DISEASES OF THE NEWBORN. *A Textbook for Students and Practitioners.* By James Burnet, M.A., M.D., F.R.C.P. (Edin.), Lecturer on Diseases of Children, School of Medicine of the Royal Colleges, Edinburgh; etc. London, New York, etc.: Humphrey Milford, Oxford University Press. 1927. Price \$1.85.

This is an elementary guide to the commoner diseases met with in the newborn child for the first four weeks or so of its separate existence.

The book is intended for medical students and general practitioners, as the author feels that there is a lack of easily accessible information on the subject.

The diseases are systematically arranged in chapters. The book is a handy and useful compendium.

MEARA: INFECTIOUS DISEASES

THE TREATMENT OF ACUTE INFECTIOUS DISEASES. By Frank Sherman Meara, M.D., Ph.D. Professor of Clinical Medicine and formerly Professor of Therapeutics in the Cornell University Medical College in New York City; etc. Second Edition, Revised. New York: The Macmillan Company. 1927. Price \$5.00.

In looking over this book one is struck at once by the fact that it is eminently practical; that it is a conscientious attempt to present the physician with the best methods that experience has approved in the treatment of the various infectious diseases.

A feature of the book which its users will appreciate is the summary at the end of each chapter, in which every phase of the treatment, including exact dosage of drugs, is concisely given. These summaries in themselves form a small compendium of the treatment.

In this second, revised edition, additional matter regarding camp epidemics of measles, streptococcus pneumonia and information regarding some less frequent infections, etc., has been added; also such revisions have been made throughout the book as have been sanctioned by a thorough review of the literature since it was last revised in 1921.

As a matter of typography we like the use of bold face throughout the paragraphs,

rather than of italics, to emphasize important words and phrases.

STEVENS: THERAPEUTICS

A TEXT-BOOK OF THERAPEUTICS. Including the Essentials of Pharmacology and Materia Medica. By A. A. Stevens, A.M., M.D., Professor of Applied Therapeutics in the University of Pennsylvania, Philadelphia; Visiting Physician to the University and to the Philadelphia General Hospitals. Seventh Edition, Entirely Reset. Philadelphia and London: W. B. Saunders Company. 1927. Price \$6.50.

This (seventh) edition has been revised throughout to bring the book into harmony with the Tenth Decennial Revision of the U. S. Pharmacopeia.

Descriptions of several new drugs have been added and such revisions made as are called for by recent researches in regard to the action of drugs and their therapeutic application.

REHFUSS: DISEASES OF THE STOMACH

DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH. With An Introduction to Practical Gastro-Enterology. By Martin E. Rehfuss, M.D., Assistant Professor of Medicine at Jefferson Medical College. With 519 Illustrations, Some in Colors. Philadelphia and London: W. B. Saunders Company. 1927. Price \$12.00.

Gastric disease of some type or other forms a large part of the practice of every physician and, on this account, the subject has perhaps received more attention than has disease elsewhere. It is not surprising then that Professor Rehfuss should find material to fill more than 1,200 pages and still be obliged to omit matters which he would have liked to include.

The book is, as the author frankly says, individualistic; but, on the other hand, it represents the view of one who has had opportunities to study the subject from every modern angle under accepted authorities, both at home and abroad.

A large part of the present-day knowledge of gastric pathology and malfunctioning has come to us as the result of x-ray investigation, of analysis of gastric contents and of the correlation of clinical symptoms with surgical findings. All these matters, including technic, are fully dealt with before proceeding to the discussion of individual morbid conditions of the stomach, which forms Part II of the book.

Professor Rehfuss rightly shows that gastric disease is often the expression of faults in other parts of the organism; that the real underlying pathologic changes lie elsewhere than in the stomach. In Part III, therefore, eleven chapters are devoted to the connection of the stomach with disease elsewhere. In this consideration we have a reason which explains why gastric surgery frequently fails to give relief when the preoperative, clinical symptomatology

seemed clearly to suggest gastric disease. Thus, for instance, while physicians are familiar with the common liver diseases, they are less familiar with the functional conditions of the liver which give little or no objective evidence; the close vascular and nervous connection between the stomach, duodenum, pancreas and liver makes any change in one of these organs of far-reaching consequence to the others.

It is impossible in a short review to more than touch upon a few of the many excellencies characterizing this work, which deals with gastric diseases in the light of all modern scientific methods for the investigation of disease, but withal insists on the importance of clinical investigation. It is a book which both the general physician and the abdominal surgeon will read with profit, every chapter in which offers food for thought as well as practical suggestions of benefit in the daily practice of gastroenterology.

INTERNATIONAL CLINICS

INTERNATIONAL CLINICS. *A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Volume III. Thirty-seventh Series, 1927.* Philadelphia and London: J. B. Lippincott Company. Price \$3.00 per volume; \$12.00 per year.

The volume for September, 1927, contains 17 papers, 10 of which deal with diagnosis and treatment.

From the general practitioner's standpoint the most interesting papers seem to be: "Colitis: Catarrhal, Mucous, Ulcerative", by Dr. T. R. Brown; "Differential Diagnosis and Treatment of Gall Bladder Disease", by Drs. I. W. Held and I. Gray; "The Medical Treatment of Peptic Ulcer", by Dr. John Phillips; "Pneumococcus Meningitis and Endocarditis", by Drs. H. I. Goldstein and H. Z. Goldstein; and "The Clinical Aspects of Thrombo-Angiitis Obliterans", by Dr. W. A. Steel.

BLUMGARTEN: MEDICINE FOR NURSES

A TEXT BOOK OF MEDICINE. *For Students in Schools of Nursing.* By A. S. Blumgarten, M.D., F.A.C.P., Associate Attending Physician to the Lenox Hill Hospital; Lecturer to the Training School of the Lenox Hill Hospital, New York; etc. New York: The Macmillan Company. 1927. Price \$3.00.

The author's object in writing this book is to instruct nurses in the essential facts of internal medicine so that they may be able to observe symptoms accurately, recognize the early signs of complications and carry out the physician's orders intelligently.

The book gives the simple etiologic and other necessary facts concerning the evolution of medical diseases, arranged in two

parts; namely, infections and allergic diseases, and diseases of organs and systems. The nurse who masters this knowledge should be very valuable for the reasons given above.

Methods of treatment are also given in detail, but it is a matter of opinion whether standardizing treatment does not tend to make a nurse critical of the physician.

HERTZLER AND CHESKY: MINOR SURGERY

MINOR SURGERY. By Arthur E. Hertzler, M.D., F.A.C.S., Chief Surgeon, Halstead Hospital, and Victor E. Chesky, A.B., M.D., F.A.C.S., Chief Resident Surgeon, Halstead Hospital. With 438 Illustrations. St. Louis: The C. V. Mosby Company. 1927. Price \$10.00.

The idea of the authors in writing this book was to help the dispensary student to understand what he sees in the out-patient clinic. It may be considered as a work on the essential elements of surgical practice.

In the first two chapters, excellent and concise descriptions are given of suturing, dressings, bandaging, etc. The rest of the book deals with regional conditions calling for minor and urgent surgery, with the measures indicated and technics of treatment clearly described.

The book is very profusely illustrated and excellently printed and will form a valuable addition to the library of any general practitioner.

FABER: LECTURES ON MEDICINE

LECTURES ON INTERNAL MEDICINE (Delivered in the United States, 1926). By Knud Faber, M.D., Professor of Internal Medicine, University of Copenhagen, Denmark. With Forty-three Figures and Charts. New York: Paul B. Hoeber, Inc. 1927. Price \$3.00.

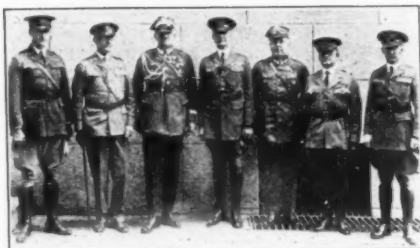
In this book are collected the four lectures on internal medicine given by Professor Knud Faber during his visit to the United States in 1926. The subjects include achylia gastrica, pernicious anemia, glycosuria and the developments in medical therapy.

The reading of these lectures will bring out many points of deep interest to physicians and afford food for thought and discussion.

THE MEDICAL DEPARTMENT IN THE WORLD WAR

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Volume II. Administration American Expeditionary Forces. Prepared Under the Direction of Maj. Gen. M. W. Ireland, The Surgeon General, By Colonel Joseph H. Ford, M.C. Washington, D. C.: Superintendent of Documents, United States Government Printing Office. 1927. Price \$3.40.

Medical News



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ARMY MEDICAL OFFICERS RECEIVE DEGREES

The university of Warsaw, Poland, has recently conferred honorary degrees upon Surgeon-General Merritt W. Ireland, U. S. Army, and four other officers of the Army Medical Corps.

From left to right, this group shows: Major Edgar Hume; Brig. Gen. Jefferson R. Kean; Brig. Gen. Stanislaw Rouppert (Surgeon General of the Polish Army); General Ireland; Lieut. Col. Bohdan Zaklinski; Col. H. L. Gilchrist; and Col. Charles R. Reynolds.

THE PAY OF A RUSSIAN DOCTOR

How would you like to be a government doctor away up in Northern Russia? Rhys Williams tells about the doctor up there who vaccinated him. This doctor had handled ninety cases that day.

The doctor has plenty of meat if the hunters have luck. Bread is plenty if an August frost doesn't blight the crops. Then, of course, he has the three dollars a month allowed him by the government—if the government doesn't forget to pay it.

As Mr. Williams says, it would never occur to that doctor that he is brave. Although they are at all times close to death, this doctor and his companions are quiet and unexcited about their life.

These so-called backward people are richer in many ways than we so-called educated, intellectual aristocrats. They, at least, have learned to accept things without complaint. They don't waste time worrying about what may possibly happen. What actually happens keeps them busy enough.—Patchwork.

HEART DISEASE AT THE TOP

During October, 1927, 2,886 persons died in Chicago. In more than 500 of these, death was due to heart disease; 305 died of diseases of the kidneys; 301 from accidents, homicide and suicide; 179 from tuberculosis; 174 from pneumonia; and 121 from cerebral hemorrhage.

Cancer figures for the month are not available, but a comparison may be obtained by noting that, during the first ten months of 1927, 5,279 persons died of heart disease and 2,852 of cancer.



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DR. LUCIEN HOWE

The prime mover in securing legislation requiring that accoucheurs use a solution of some silver salt in the eyes of new-born infants, in order to prevent ophthalmia neonatorum, was Dr. Lucien Howe, of Cambridge, Mass.

This eminent oculist, who is now 79 years old, attended the conference of the National Committee for the Prevention of Blindness, held recently in Chicago.

Dr. Howe and his family have just given \$250,000 to Harvard University for the

establishment of the Howe Laboratory of Ophthalmology, of which the doctor will be the first director.



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WOMEN EXPERTS TEST THERMOMETERS AT U. S. BUREAU OF STANDARDS

Mrs. M. T. Miller and Miss Anita McCord, expert thermometer testers at the U. S. Bureau of Standards in Washington, testing clinical thermometers for commercial use in the Bureau laboratories. All manufacturers of thermometers, to insure their absolute accuracy, have them tested at the Bureau.

GOVERNMENT HOSPITALS NEED LABORATORIANS IN BACTERIOLOGY AND ROENTGENOLOGY

Applications rated as received until January 7.

The United States Civil Service Commission has announced that hospitals of the United States Public Health Service and the Veterans' Bureau throughout the country are in urgent need of laboratorians in bacteriology and roentgenology and that applications for the positions will be rated as received until January 7, 1928.

Salaries are as follows:

Laboratorian (Bacteriology).—Public Health Service, \$1,320 to \$2,100; Veterans' Bureau, \$1,860 to \$2,400.

Assistant Laboratorian (Bacteriology).—Public Health Service, \$1,080 to \$1,320; Veterans' Bureau, \$1,500 to \$1,860.

Laboratorian (Roentgenology).—Public Health Service, \$1,800 to \$2,400; Veterans' Bureau, \$1,860 to \$2,400.

Assistant Laboratorian (Roentgenology).—Public Health Service, \$1,080 to \$1,800; Veterans' Bureau, \$1,500 to \$1,860.

The lower salary named is the entrance salary in each instance. Higher-salaried positions are filled through promotion.

Appointees to the Public Health Service are also allowed quarters, subsistence and laundry. Appointees to the Veterans' Bureau are not allowed quarters, subsistence and laundry in addition to salary, and when they are furnished by that Bureau a deduction therefore is made from the salary.

Applicants will not be required to report for examination at any place, but will be rated on their education, training, and experience, as shown by their sworn statements and corroborative evidence.

For full information and application blanks (Form 2374) apply, stating the title of the examination desired, to the secretary of the local board of United States civil service examiners at any first class post office, or to the United States civil service district secretary at Boston, Mass., New York, N. Y., Philadelphia, Pa., Washington, D. C., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Louis, Mo., New Orleans, La., Seattle, Wash., San Francisco, Calif., or Denver, Colo.

MILK OR COFFEE FOR CHILDREN?

A recent survey of the habits of the school children of Pittsburgh shows that the drinking of milk and of coffee is about equal.

It is interesting to note that, of those who drank only milk, the majority had class standings of "good," while of those who drank coffee the largest number had standings of "fair."

Send for This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, North Chicago, Ill., will gladly forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our

readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

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| UU-762 | Campho-Phenique Ointment. Campho-Phenique Company. | UU-910 | Service Suggestions, November-December, 1927. Victor X-ray Corporation. |
| UU-779 | The Dangers of Curettage. Huston Bros. Company. | UU-930 | Loeser's Intravenous Physiological Salt Solutions. Loeser Laboratory. |
| UU-781 | Hang This Up—It Tells How to Make Percentage Solutions. Sharp & Dohme. | UU-944 | The Uses and Therapeutic Value of Yeast and More Particularly of Dried Brewers' Yeast. (Reprint). By C. Faust Newton, M.D., Ph.D. Harris Laboratories. |
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- UU-971 National Therapeutic Arc Carbons. National Carbon Co.
- UU-978 German Resorts. German Health Resorts.
- UU-979 Program Medical Lectures in Bad Kissingen. German Health Resorts.
- UU-981 NEW SUGGESTIONS: X-Ray Technic with Petrolagar as Suspending Agent for the Opaque Meal, with reprint from the *Medical Journal and Record* for May 4, 1927, entitled "A Suggested Modification in the Technic of X-Ray Examinations of the Gastrointestinal Tract" by Dr. J. F. Montague, F.A.C.S. Deshell Laboratories, Inc.
- UU-982 Metatone. Parke, Davis & Company.
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- UU-987 The Blood Picture. The Wilson Laboratories.
- UU-988 Dys-Amen-Caps. Tilden Company.
- UU-989 Value of Iodine in the Treatment Scarlet Fever (Reprint) by Harry J. Novack, M.D., Philadelphia.
- UU-990 A Symptomatic Treatment of Tuberculosis. Loeser Laboratory.
- UU-992 Obstipation Treated by Colonic Therapy Combined With Intestinal Medication, by O. Boto Schellberg, New York City.
- UU-993 Victor Vario-Frequency Diathermy Apparatus. Victor X-Ray Corporation.
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- UU-1014 Harrower's Ready Reference List on Endocrine Products, Forty-Eight Pages and Cover. The Harrower Laboratory.
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- UU-1017 The Handicapped Child. The Harrower Laboratory.

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CLINICAL MEDICINE and SURGERY

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LEADING ARTICLES

Dyscrinism and Toxemia

By J. Montgomery Anderson, M.D., London, England

Local Anesthesia in Urological Surgery

By Samuel J. Sinkoe, M.D., Atlanta, Georgia

Medical Malpractice Suits

Third Paper

By Czar Johnson, M.D., F.A.C.S., Lincoln, Neb.

The Interstate Postgraduate Medical Assembly and The American College of Physical Therapy

Reported by George B. Lake, M.D., Chicago

Chlorazene in the Treatment of Infections

A Case Report

By Fred B. Fellows, M.D., Glen Ellyn, Ill.

A Symposium on Bronchial Asthma

Led by Burton Haseltine, M.D., F.A.C.S., Chicago

Hydrotherapy in General Practice

By G. K. Abbott, A.B., M.D., Takoma Park, Washington, D. C.

Editorials

Lord Lister

Protecting the Victims

The Franco-German Chemical Trust

When Is a Man Drunk

Antipyrine

The Peace of Christmas

Diathermy and Peaches Browning's Legs

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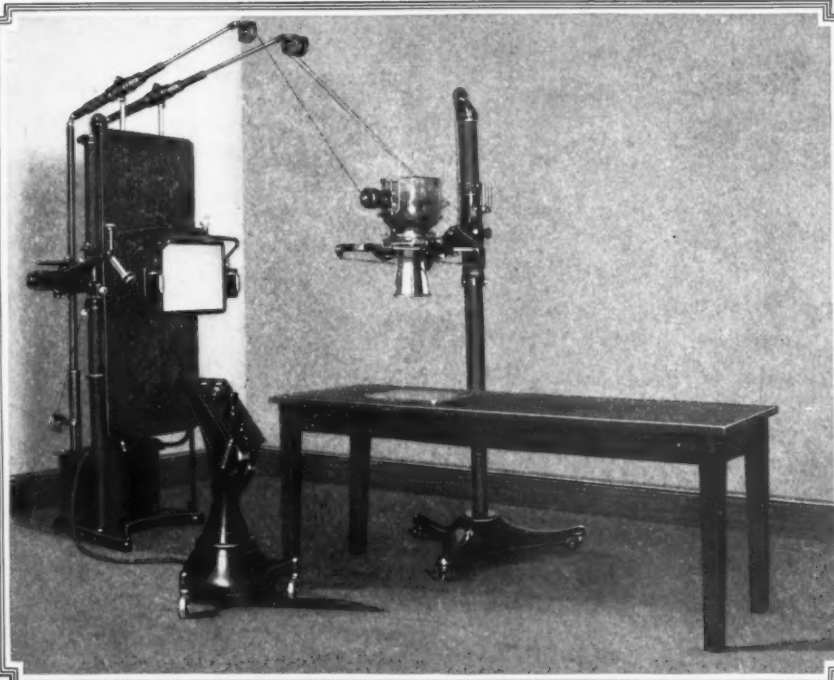
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R

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